THE

Journal *of* Home Economics

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THE
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THE SOCIAL SIGNIFICANCE OF THE HOME ECONOMICS MOVEMENT.

ELLEN H. RICHARDS.

Honorary President American Home Economics Association.

No great change comes over the ideas and consequent actions of a community without some underlying, often undiscovered, cause. Frequently the cause remains a mystery for decades or centuries. Very often the observed result is attributed to the wrong chain of causes, so that any suggestion as to the motives impelling recent changes must be very modestly made.

But when one has been a part of a certain definite series of consecutive efforts, one may be pardoned for having an opinion as to the trend of the thought directing it. First, Home Economics means to the leaders economics in its original significance, household administration, domestic management. Political economists have usurped the word to mean *production* of wealth. In early times this was largely done within the domain of the household, but with the taking away of the producing interest through the rise of factory products, a gap was left in the carrying out of this theory, only now beginning to be filled by the new science, the economics of consumption. More than this, the civilization of the past has been developed, we believe, through the family home, the bond of mutual interest between parent and child, grandparent and grandchild, brother and sister, which makes coöperation under one roof possible. According to Herbert Spencer's view, "the convictions which create and maintain the monogamic family have become innate in our modern civilization."

The home has a distinct ethical as well as economic meaning. It should include mutual helpfulness in spiritual matters as well as mutual economic benefit. In America this economic function of the homestead as a producer of goods was taken away first by the cotton factory, then the woolen mills, the shoe factory, the western flour mills, etc. The growth of cities and the concentration of business took away even the production of the finished article from the raw material, of the garment from the cloth, of the edible food from the farm product. Restaurants and hotels throve apace, amusements were provided for both adults and children, until in many cities the family if they keep together at all merely sleep under one roof, perhaps with several other families, but have no common life and no common interests. Of course this is not a universal condition, but it is too common, and too increasingly so, for the student of social tendencies to contemplate with equanimity.

An early protest was made by Col. Carroll D. Wright, when he was Labor Commissioner of Massachusetts, and who sent Miss Clare de Graffenried in the early seventies to the Lowell factory millhouses to get budgets. Mr. Edward Atkinson and Colonel Wright from the economic stand-point passed to the effect on society which a continuance of this extravagant and ill-managed household would have. When 70 per cent of the mill wages went for food, a poorly balanced ration and badly cooked at that, too little was left for shelter and clothes. In the same decade certain thoughtful women in New York and Boston observed the ignorance of others than factory girls of the needs of a well managed household, and in the seventies both Miss Corson of New York and Miss Parloa of Boston opened cooking schools because the standard of the family table seemed to be deteriorating. And even before the study of sociology was talked of, careful observers of social conditions felt the ethical value of the meeting place, around the common board, of young and old, and of their *satisfaction* with what was provided.

This *satisfaction* means a certain favoring of individual tastes. "Mother's cake" means just the amount of flavor or consistency preferred by the child. The ethical value of the home table has doubtless always been recognized, but it is now more clearly seen to have its reasons deep in human nature. Food is the fundamental race factor. Satisfaction with it is essential to well-being. The loving thought given to its preparation, who knows how much it has to do with its value?

For many unformulated reasons, the philanthropist first, then the sociologist, has wakened to the idea of the family table as one of the strong factors in social righteousness, and hence the beginning of reforms naturally and instinctively took the form of classes for the teaching of cooking.

The seventies and eighties saw this as the main endeavor. Some sewing classes were formed in social settlements and among the shiftless, and a few society girls met in clubs either to cook or sew for fun, but *mothers* still knew how to use the needle. The economic pressure began to be more strongly felt after the business panics of about that time, it was found that too often the woman's hand had lost its cunning and her mind its grasp on every day affairs. Relief work showed that among families discouragement, shiftlessness and disintegration threatened the foundations of society.

Sociology—socionomy as suggested by Michael Lane—as studies, began to take the place of mere philanthropy. "Arm chair philanthropy" as some have termed it, was not sufficient. Actual understanding of the causes of the deplorable conditions was demanded. For twenty-five years now, these studies have been making, now in one city, one university, now in another, by workers and students all all over our land. For our purpose it will be sufficient to consider three phases of this general effort to stem the tide of degeneration. True, the pessimist does not try to stem it. But why is not Cologne Cathedral allowed to decay? Has it not outlived its usefulness? No, it is the expression of noble, inspiring thought worthy of the effort to preserve.

Why should a mere tendency, due to a spirit of greed or even to heedless speed, be accepted as an inevitable law? Why should the dearest traditions of the race be run down without protest? "When the nobler members of the race combine their efforts to protect the type won by their ancestors and supported by social science, a new set of causes enters the field and a new tendency offers its phenomena for observation. Minorities grow into majorities, and the mountain becomes a high road." Thus speaks Professor Charles R. Henderson. It sounds the note of hopefulness, of belief in moral force over material factors, the power of mind over matter, the power of strong minds over weaker ones, the triumph of higher purpose over that lower purpose which finally makes a coward of its possessor.

The three factors to which we shall refer are the house as a home,

the food, and the education required to grasp the facts of modern economic conditions and to cope with them.

It was natural that the food should be the first studied. When Mrs. Quincy A. Shaw, Louis Agassiz' daughter, felt compassion for the working man tempted to drink and considered what might be done for him, she maintained the New England Kitchen from 1890 to 1900, to devise some means of helping him to a good noonday meal, and of teaching his wife to prepare sustaining food. The story of the Kitchen is a fairy story. How its work became known; what failures nearly every other city saw in trying to copy it because of varying conditions not understood at first, because of deep race prejudice in favor of or against certain foods; how the state of Massachusetts made the Rumford Kitchen a part of its exhibit at the Chicago Exposition; how the adult man and his wife were found to be too slowly affected, and the effort was finally turned by the generosity of another woman, Mrs. Wm. V. Kellen, daughter of B. F. Sturtevant, to the lunches of school children, where it rests today, is a long tale. Food is a most important factor in race progress, but it is so fundamental that in a measure it takes care of itself. That is, man will not starve if any food is to be had, and so wonderfully adaptive is the human body that almost any food can be assimilated if need arises. Jane Addams in her book Twenty Years at Hull House tells of the woman who sounded the knell of the well meant reform coffee house in her remark, "I'd ruther eat what I'd ruther. I don't want to eat what's good for me."

Within six months of the beginning of the New England Kitchen and its studies of social conditions, it was found that while among the fairly well to do there was a great misuse of food, among the poor the social need was for decent and safe *shelter* rather than food. The latter was more familiar and more under their control.

From that time, greater and greater attention has been paid to housing questions. These are complicated by the gregarious tendencies of those who do not have the world's burdens on their shoulders as some of us think we have, or who have little resource outside of friendly talk.

A good example of the shelter difficulty is told by Weber in his paper on the growth of cities. A woman was found with half a dozen children in a cellar room in New York. The children were growing up pale and thin. The family was transported out into the country and given a cabin and piece of land to work on, and perhaps a goat or a cow. The philanthropist rubbed his hands with satisfaction—that family

will take care of itself now. Within six months they were found back in the same old den. When berated for her return, the mother retorted, "Folks is more company nor stumps, anyhow."

Interest *in people* is the strongest tie. Isolation is the hardest to bear, hence the fear of being ostracised if one is different. It is this persistent trait, unconscious of it though she be, which affects the housewife when she buys what her neighbor already has. Fear of being different from others is the mainstay of fashion and its changes.

In Philadelphia in 1890, studies of St. Mary's Street quarter showed the pressing need of better shelter. In Chicago in 1892–97, at Hull House, the Fellowship of the Collegiate Alumni and the College Settlements Association made house to house studies of standards of living.

One important fact was brought out in all these cities. The day worker is too tired to go far out of the way to purchase food; not more than two or three blocks farther away will a shop be patronized even if the food is better, and more often the flavor and combination liked by one nationality is abhorred by another. It would seem that public kitchens are not suited to American conditions.

The open kitchen planned to encourage *adult* patrons to ask how and why was also a failure, as had been most of the adult cooking classes.

About 1882 the first summer work was given to public school children in Boston. In 1884 the Teachers College took one of the sets of blocks showing the composition of the human body and income and outgo, which had been prepared in Boston, and began their career as leaders in this movement. Pratt Institute followed, and Drexel soon after. Mr. Edward Atkinson of Boston, the economist, and Dr. Thomas Egleston, the philanthropist metallurgical professor at Columbia, one and all began with the girl and boy: Manual training and domestic science. All this meant that children *were not* and apparently *could not* be taught the essential manipulations of keeping themselves clean and fed and clothed in their own homes. At least they could not learn the most effective ways. All these schools have been cautioned not to make the work *trade work*, and so they have sometimes given principles to the exclusion of sufficient practice.

Meanwhile the socalled homes have become more and more boarding houses—and young people have gone out into the world with less and less sense of responsibility until employers of young men and young women have rebelled. It is said that not only do the young people show themselves ignorant, but they do not wish to learn. All classes

of society show the lack of any appreciation of work as *a duty* or of any return owed to society.

It became evident that something must be done, and the rise of schools of commerce and of agriculture for boys and of domestic science for girls is the outcome of the belief that in the early years each individual must be trained to take care of himself and not to need several others to wait upon him. Then he must know what responsibility for his own acts means.

This upheaval in educational ideals, the insistence upon the introduction of the manual and domestic arts into the curriculum, means nothing less than an effort to save our social fabric from what seems inevitable disintegration. It also emphasizes the belief of educators that the education gained in performing the various daily duties required of the members of a family group is of the highest moral value, a steadying spiritual force. Why has it been so universal that the woman's club retorted to those who urged study of home affairs: "We have enough of that; we wish to hear about Greece and Rome or the Philippines?" Does this not mean that these women were never taught to find anything but drudgery in their work?

Housekeeping has too often been drudgery, monotonous and wearisome, something to be endured. The merchant, the business man, and the manufacturer, as well as the engineer, have been *stimulated* by the new problems of our time. They have only worked the harder. The housewife has been told that she must stay in and do her work. This was preached at her, written at her, but no one of them all, save perhaps the Englishmen Lecky and H. G. Wells, saw the problem in its social significance, saw that the work of home making in this engineering age must be worked out on engineering principles, and with the coöperation of both trained men and women. The mechanical setting of life has become an important factor, and this new impulse which is showing itself so clearly today for the modified construction and operation of the family home is the final crown or seal of the conquest of the last stronghold of conservatism, the home keeper.

Tomorrow if not today, the woman who is to be really mistress of her house must be an engineer, so far as to be able to understand the use of machines, and to believe what she is told.

The emergence from the primitive condition was slow because the few of us who did show our heads were beaten down, and told we did not know. It required many college women (from some 50,000 college graduates) to build and run houses and families successfully, here

one and there another, until the measure of meal has been leavened, and the bread has risen over the edge. Society *is* being reorganized, not in sudden explosive ways, but underneath all the froth and foam the yeast has been working. The world is going to the bad only if one believes that material progress is bad. If we can see the new heaven and the new earth in it then we may have faith in the future.

The human elements of love and sacrifice, of foresight and of faith, are going to persist and any apparent upheaval is only because of settling down into a more solid condition, a readjustment to circumstances like an earthquake.

The farsighted, who with ear to the ground have worked to secure a place in education for these subjects fundamental to the modern home, are now respectfully listened to.

It is universally conceded today—only a few wilfully blind or croaking pessimists excepted—that home keeping under modern conditions requires a knowledge of these conditions and a power of control of persons and machines only obtained through education or through bitter experience, and that education is the less costly.

When social conditions become adjusted to the new order, it will be seen how much gain in power the community has made, how much better worth while the people are. Have faith in the working out of the destiny of the race, be ready to accept the unaccustomed, to use the radium of social progress, to cure the ulcers of the old friction. What if a few mistakes are made? How else shall the truth be learned? Try all things and hold fast that which is good.

The Home Economics movement is an endeavor to hold the home and the welfare of children from slipping away over the cliff, by knowledge which will bring courage to combat the destructive tendencies. Is not a distinctive feature of our age one of overcoming the natural trend of things? If a river is by natural law wearing away its bank in a place we wish to keep, do we sit down and moan and say it is sad, but we cannot help it? No, that was the middle ages. We say, hold fast, and we cement the sides and confine or turn the river.

The ancient cities whose ruins are now being explored in Asia seem to have been abandoned because of failure of the water supply as the earth became dessicated, as for example our Zunis' home. Does such an event stop us today? No, we bring water from hundreds of miles. Man has gained such control over nature, but then will he sit down before his own problems and say what are you going to do about it?

What if the *apparent* motion is toward cells to sleep in, and clubs to play bridge in, and amusements for evenings, and a strenuous business life run on piratical principles into which the women are drawn as decoy ducks? Because this seems to be the trend is there any reason to think it cannot be changed the moment a goodly portion of the thinking people stand face to face with the problem? I believe it *is* possible to solve the problem, but only if the aid of scientifically trained women is brought to work in harmony with the engineer who has accomplished so much.

Household engineering is the great need for material welfare, and social engineering for moral and ethical wellbeing. What else does this persistent forcing of scientific training to the front mean? If the state is to have good citizens, productive human beings, it must provide for the teaching of the essentials to those who are to become the parents of the next generation. No state can thrive while its citizens waste their resources of health, bodily energy, time, and brain power, any more than a nation may prosper that wastes its natural resources.

The teaching of domestic economy in the elementary school, and Home Economics in the higher, is intended to give the people a sense of *control* over their *environment* and to avert a panic as to the future.

The economics of consumption, including as it does the ethics of spending, must have a place in our higher education, preceded by manual dexterity and scientific information, which will lead to true economy in the use of time, energy, and money in the home life of the land. Education is obliged to take cognizance of the need, because the ideal American homestead, that place of busy industry, with occupation for the dozen children, no longer exists. Gone out of it are the industries, gone out of it are ten of the children, gone out of it in large measure is that sense of moral and religious responsibility which was the keystone of the whole.

The methods of work imposed by housing conditions are wasteful of time, energy, and money, and the people are restive, they know not why. As was said earlier, shelter was found by early students of social conditions to be most in need of remedy, so we see that, as C. R. Henderson has said:

> In the first place the state is beginning to offer positive aid to secure a suitable home for each family. A communistic habitation forces the members of a family to conform insensibly to communistic modes of thought. Paul Goehre, in his keen observations printed in Three Months in a German Workshop, interpreted this tendency in all clearness. The architecture of a city tenement house is to blame for

the silent but certain transformation of the home into a sty. Instead of accepting this condition as inevitable, like a law of nature, and accepting its consequences, all experience demands of those who believe in the monogamic family that they make a united and persistent fight on the evil which threatens the slowly acquired qualities secured in the highest form of the family. It would be unworthy of us to permit a great part of a modern population to descend again to the animal level from which the race has ascended only through aeons of struggle and difficulty. When we remember that very much, perhaps most of this progress has been dearly purchased at the cost of women by the appeal of her weakness and need and motherhood, we must all the more firmly resolve not to yield the field to a temporary effect of a needless result of neglect and avarice. As the evil conditions are merely the work of unwise and untaught communities, the cure will come from education of the same communities in wisdom and science and duty. What man has marred, man can make better.

It is not impossible to furnish a decent habitation for every productive laborer in all our great cities; many really humane people are overawed by the authority, the pompous and powerful assertions of "successful" men of affairs; and more often sleep while such men are forming secret conspiracies against national health and morality with the aid of legal talent hired to kill. Only when the social mind and conscience is educated and the entire community becomes intelligent and alert can legislation be secured which places all competitors on a level where humanity is possible.

Here again the monogamic family is the social interest at stake. It is a conflict for altars and fires. We are told that all these results are the effect of a natural uniform tendency in the progress of the business world, and that it is useless to combat it. Professor Henderson reminds us that the tendency to uniformity revealed by statistics may be reversed when resolute men and women, possessed of higher ideals, unite to resist it. Jacob A. Riis holds that these evils are not by a decree of fate but are the result of positive wrong, and in his dedication of his account Ten Years' War we read "to the faint-hearted and those of little faith this volume is reproachfully inscribed by the author."

In like manner we call today for more faith in a way out of the slough of despond, more resolute endeavor to improve social and economic conditions, and we beg the leaders of public opinion to pause before they condemn the efforts making to teach those means of social control which may build yet again a home life which will prove the nursery of good citizens and of efficient men and women with a sense of responsibility to God and man for the use they make of their lives.

THRIFT IN THE KITCHEN FROM THE EUROPEAN STANDPOINT.[1]

EDITH TALBOT JACKSON.

One of the most valuable importations made by private individuals returning from a sojourn in Europe is one that has thus far escaped the most vigilant customs inspectors. This valuable possession arrives without material shape and consists in a new comprehension of the possibilities of more careful and thrifty habits in using our abundant food supplies. Fortunately it is being brought in with increasing frequency at a time when we are recognizing the need of it more and more.

Nature has been generous to us in the United States, and food materials have been easier to procure than the labor to prepare them for our use. We have therefore drifted quite naturally into using them extravagantly. Statistics have been compiled and presented to the housekeepers of the country showing various alarming facts, as, for instance, that it is not unusual for one-half the food materials bought for an American household to be thrown away as waste. Lectures have been delivered full of wise suggestion and warning. But the greatest argument of *all* is now being applied with impressive persistence—the increased cost of living.

We have learned, however, to delight in our bountiful table, our many luxuries, and our little refinements. What can be done to secure them to us without an increase in expense that is prohibitive? The encouraging factor in any grave situation among our people is that a serious necessity always brings an intelligent and practical remedy. In our kitchens, as in many other departments of our industrial life we are finding today new uses for the education which we have been pushing for so many years. In our grandmothers' days, when the house was the centre of industrial enterprises, the effort of the housewife was to learn how to do or to direct all processes of the manufacture

[1] Presented at the St. Louis meeting of the American Home Economics Association, December, 1910.

of domestic supplies. The most intelligent housewife today must study the very opposite—how to secure the best household articles *outside* the house, because the modern means of quick and cheap transportation have made it possible thus to coöperate in producing these articles in wholesale quantities, thereby reducing the cost.

We have been very busy developing the education of our women, with the certainty that only by this means could they keep pace with the enormous developments in the industrial world brought about by the fertility in invention of our men. The time has come when we are beginning to demand extraordinary evidences in our households that these developments in the education of women are justified and practical. Large numbers of our women have lived in Europe while pursuing higher branches of study, and they are bringing back with increasing frequency very valuable lessons in household matters acquired not in the universities, but in the hospitable homes which have sheltered them and in the markets and shops which they have visited and studied. On the whole we know that our ideas on domestic hygiene and comfortable living are farther advanced than those of any European people, but that in matters of economy in the household we can study and adapt with profit many of the ideas and practices prevalent in Europe, especially in France and Italy.

In the first place, we must change the customs in our markets by creating a demand which the marketmen will meet for supplies sold in small quantities for small families. Why is it that if we have an invalid in the home for whom we want a bit of chicken, we have to buy a whole chicken and to feed the family with it even if it costs more than we can afford? Because we have no habit of buying just what we need, but we buy what gives the marketman the least trouble and the least risk. Of course, however, if we all bought only what we need, there is also no risk for the marketman, for he will usually have some customers who desire the choicest and some who must limit their desires to the cheapest, and in any case he would soon adjust his purchases to the demands.

Here is one way in which a change would make it easier to feed a small family economically and satisfactorily, and would form one factor in reducing the number of small families who board rather than have their own homes, preferring to have a table not so good and without privacy to eating roast beef five days in succession, as is often done in small families perforce.

If we cannot secure the desired coöperation on the part of the market-

man, we must develop a new trade for women, and have our vegetables, fruits, meats, and fish sold by women. The French meat dealer sells any or all the parts of the chicken; you can buy one wing with half the breast, a leg and second joint, or the claws, neck and comb to put in your soup kettle. He also offers tiny roasts ready to put in the oven, such as a tiny fillet larded, or a small loin cut of lamb, or veal just enough for two people, or larger, of course, if you wish it. In this country many scorn a purchaser who is so "small" as to buy only what she needs, and we dread to be such a purchaser. The scorn comes on the other side in Europe, and is expended rightly on the willful and useless extravagance of buying more than you can use and throwing half of it out as waste. Most American husbands are generous providers, and will need long and patient education on the part of their wives to learn this lesson, now becoming every day more important.

Of course another question closely related to the buying is that of what articles to use in feeding your family. Here again we are reaping the advantage of educating our women, for they are learning not only how to combine different kinds of foods so that the family shall be well nourished as well as plentifully fed, but they are also learning not to say "I am so tired of deciding three times a day what we shall eat; I wish some one would invent another kind of meat." This is because they are getting used to the idea that we do not need other *kinds* of food but more intelligence in preparing what we have, and the exercise of their intelligence in deciding what to buy makes the task a pleasant novelty each day instead of a bore.

In the first place we are slowly learning that the French and Italian soup as used by people of moderate means is a meal in itself. Our people of the same income think of soup as a mixture of bones or cheap cuts of meat, plenty of water, and a little salt, boiled quickly on a hot fire, strained and served. No wonder that many people call it dishwater and refuse to eat it! The soup of France and Italy is made with very little meat, very slow cooking, and a large number of other ingredients used with that kind of intelligence that might be termed a "loving" interest. When we season a soup, we are apt to think that if one bay leaf is good, two will be better; if one carrot is desirable, two will be more so. We have yet to realize that serious thought should be given to the ingredients so that no one flavor will be especially prominent and so that the combination will give the largest amount of nourishment in proportion to the expense. Some sort of meat is essential unless we use rice, barley, or tapioca; also a variety of herbs

in very small quantities, and a variety of vegetables cut fine. These are the essential characteristic of the soup, varying with every day according to what the market affords and what the pantry provides of left overs. In wealthy families where an abundant meal is served in addition to the soup, the cereal and vegetables are strained out: in more modest families they are left in, for the sake of economy and nourishment, for this thick soup with bread and cheese or macaroni and cheese, and a bit of fruit or jam, gives the children an abundant meal. We use cheese less than in Europe, largely because, in addition to a heavy meal, as we generally serve it, we find it indigestible: As an important part of the meal, most of us could eat it with impunity. The Swiss cheese, or Gruyère, is almost as cheap in any of our large importing centers as in Italy, where it is a staple article of diet among quite poor people, though here we consider it a luxury. Parmesan cheese, which lends itself better than any other to combinations with macaroni, or sprinkled in a soup that is not otherwise quite nourishing enough, is also very dear in France and Italy, but is considered to give better results for the money than meat. It is just as easily obtained here in the United States, but rarely used except by the wealthy.

It will not be easy for us to realize without long practice how to use to advantage such a soup as I have described. One argument against making it a feature of the meal is that we are cultivating very generally a fad for much chewing as a means of stimulating the digestive juices and thus aiding assimilation. But other articles can be added to the meal that will require chewing, and thus the effect of the soft character of the soup will be offset. The desired result is obtained in Europe by serving dry bread with the meal, without butter.

In connection with our new market, furnishing smaller quantities of meat at the same average price as at present, we should aim to encourage our markets to offer small bunches of mixed vegetables for soups for a small family, and to secure from the farmers a larger supply of herbs for seasoning and of green things for salads than are now available. Many a lonely woman in the country would find delightful employment in raising, gathering, and drying the many good herbs that used to hang from the rafters of every well stocked kitchen a hundred years ago. The income from this source would be small, of course, until the old fashion can be revived of using a spray of the herb itself in our soups and stews rather than the powder now in use, which is only fit for stuffing and gravies.

Two suggestions come to us from the daily habit of European house-

keepers. We should encourage the cultivation of edible birds for the table to bring them within the price available to the ordinary household, and with the addition of these various edible birds, some parts of the country will be able to include the *hare* which in Germany is such good eating.

Secondly, and most important, perhaps of all the lessons we can learn from the kitchens of Europe, we must train ourselves to plan ahead, and give time enough to allow all the goodness of our materials to be used to the best advantage. It makes a great difference in the expense if we wait until the last possible moment before we decide what we will prepare for the meal. Perhaps we then have to send the children to the corner store for some needed materials, for which we pay more than at a less convenient store, or we buy something quick at a higher price than the food we should have chosen had there been time to cook it, but without any corresponding gain in nutriment or appetising taste. It is this forethought that makes it possible to use leftovers to advantage. There are so many good and easy and palatable ways of using bits of meat or fish or vegetables left from yesterday, beside the usual "warming up" that is so unattractive and unpalatable, that it seems worth while to exert our ingenuity and consult the cook books instead of expecting the untrained mind in the kitchen to devise economical and delicious dishes from the remains of yesterday's food. It is because we do not make this effort that these bits of good food are thrown away, and the cost of living is bitterly complained of.

It is of course the educated and intelligent woman doing her own work, or directing the work of one general servant, who marks out any new and improved path in household matters and sets an example which other housekeepers follow. To her we look for the working out of better customs in our kitchens which shall make housekeeping more feasible and satisfactory for us all. Fortunately the number of such women is rapidly increasing, and the number of kitchens dominated by ignorant, obstinate, and extravagant servants is gradually lessening, while housework as an occupation is in consequence becoming rapidly more desirable and attractive to a more intelligent class of women.

HOUSEHOLD SERVICE AS A LABOR PROBLEM.[1]

I. M. RUBINOW.

United States Department of Commerce and Labor.

The problem of household service is primarily a labor problem—not only in the very general sense, because it is a problem of human effort, but in the much more specific sense—a problem of hired labor, of relations between employer and employee, a problem of labor contract, of wages, hours, and other conditions of life and work.

The observation seems trite enough, until the attitude of the public to the situation is examined. Some years ago I had the opportunity, kindly furnished by the secretary of this association, to discuss the problem of domestic service from the point of view of the domestic servant before an exceptionally intelligent and sympathetic audience at Teachers College, and the general attitude of the press and of influential public opinion was such as to explain why this point of view is not taken more frequently. I had no complaint to make as to the amount of notoriety suddenly acquired—I received almost as much of it as if I had cracked the skull of a strike breaker—I could not have shocked the sensibilities of the public more by a brick. An important metropolitan daily reported the lecture under the sensational headline: "Bold Man Defends Servant Girl"—indeed the general tenor of the press notices was such as to emphasize the "nerve" necessary to present labor's side of the servant girl problem.

That there is the housekeeper's side of the story, and that it is well worthy of study, need not be denied. In the discussion this side will undoubtedly be ably represented by other speakers. Also the general sociological nature of the problem is by this time fairly well understood. It is agreed upon by most serious students of the problem that the entire organization of our home represents largely a survival of medieval conditions now practically unknown in other branches of productive

[1] Presented at the St. Louis Meeting of the American Home Economics Association, December 28, 1910. Other aspects of the problem have been treated by the author in the *Journal of Political Economy* (October, 1906), the *Journal of Sociology* (March, 1909), and *McClure's* (March, 1910).

effort, at least in civilized communities; that the backwardness of the technical organization of our home, and therefore also of its economic organization is due to the large supply of cheap female labor for which there was no demand outside of the home; that furthermore the backwardness in the development of the home, causing an antiquated labor contract, with an exceptional restriction of the worker's personal liberty—makes for social discrimination against this vocation, and causes that lack of servants which is one aspect of the problem.

It was, I believe, my personal contribution to the study of the problem, to point out that, sociologically speaking, that is taking in at one glance large and organic changes of social life, there is an automatic corrective to this problem in the new fields of endeavor opened to woman's energy and the consequent movement of female wage workers away from domestic service into those other fields. For with the rapid decrease in that large supply of cheap labor, the technical progress and economic reorganization of the home becomes an urgent necessity, to be solved by the technical genius of the twentieth century even as the problem of rapid transportation was solved in the nineteenth. It is not at all difficult to imagine a degree of progress in the organization of our home, when the private servant, first an absolute necessity, then a convenience, later a luxury, will finally become as extinct as a dodo, through the operation of a remedy which may be succinctly summarized in two words, "scientific housekeeping."

There are, however, two important limitations to the practical usefulness, if not the scientific accuracy, of this prophecy. The first is that of time. Sociological changes take ages, and it is not in the nature of sentient humanity to be satisfied with visions of a future golden age when confronted with live, throbbing economic and social problems. Secondly, even the entire disappearance of the servant in the house, even with the disappearance of the private home itself, if it were likely to happen, would not solve the problem of domestic service, for simultaneously with it there is a rapid development of institutional life, where a new problem of household service arises.

For after all, what is a social problem? If I may be permitted to indulge in the scientific vernacular of modern sociology a social problem is a condition of social maladjustment. Its manifestations are discomfort and pain, finding outward expression in dissatisfaction and complaints. To judge by this formula, there is a formidable problem of household service, for surely there is no dearth of discomfort, dissatisfaction and complaints.

This a matter of common observation. But unfortunately little more than common observation is as yet available, and a thorough study of the facts of household service is the first step towards its solution. No large investigation of domestic service in this country has ever been undertaken.

There is no intention to throw any discredit upon the very useful and suggestive efforts made by Professor Lucy Salmon, Miss Gail Laughlin, Miss Frances Kellor, or the energetic workers of the Boston Educational and Industrial Union, or even such individual studies as were undertaken by Miss Pettengill by means of the masquerading method, made classical by the American reporters. As Miss Rheta Dorr has well stated, "We have not yet reached the point of sending agents to enquire: 'How many servants do you keep? What are their hours of work and what kind of sleeping accomodations do you furnish them?'" At least we have not yet done it on any large scale.

Perhaps the only reliable data covering the entire United States which we possess are those of the United States census. Unfortunately they do not go very deeply into the problem. The American people have not yet seen fit to require of the census as extensive a study of sociological phenomena as is given to commercial and industrial life. Nevertheless the census data are extremely valuable as far as they go. To begin with, they tell us that there were in 1900 1,460,000 servants and 105,000 waiters and waitresses making a total of 1,565,000. If to this group we should add 156,000 housekeepers and stewards, 325,000 laundresses, and 100,000 untrained nurses, we obtain the gigantic total of 2,146,000 persons in the household occupations, and the list is far from complete.

It may not be generally known that this represents the largest occupational group outside of farmers and agricultural laborers, that it is more than four times as large as the total number of miners, whose condition has been studied carefully and repeatedly, that it is more than eight times as large as the total number of cotton mill employees to whom is devoted a twelve hundred page volume published a few days ago by the United States Bureau of Labor. Of these, 1,850,000 or 86 per cent are women; they represent the very largest group of female labor, which was investigated by the Federal Government at a cost of $300,000 specially appropriated by Congress; they represent more than one third of all women employed in remunerative occupations. Nearly 140,000 of them are under sixteen years of age, so

that we also have the elements of a large child labor problem which as yet remains almost untouched by scientific investigation.

The particular grievances and problems in this branch of wage-labor are to a large extent no different from those in other branches though in addition specific grievances are not lacking. They are concerned, first, with wages, hours, Sunday rest, and similar conditions of the labor contract; second, with the conditions of work, such as the hygienic conditions of the kitchen—the workshop of the household worker; finally, there are the grievances pertaining specifically to the treatment of the wageworker; but analogous, if not similar, problems of administration are not infrequent in the industrial field.

Perhaps the most distinctive detail is that of the living conditions, food, shelter, and sleeping accomodations. These are questions which at present but rarely arise in the industrial field, though in the past, living out was a common feature of the industrial wage contract, and is still common in commercial employments in England. These material problems, in my conviction, are much more important than the purely psychological problem of social status. Moreover, it must be admitted that at the bottom the causes of the social status are largely found either in the present material conditions or in the inevitable survival of the psychological results of past material conditions of domestic service.

Are the grievances justifiable? Unfortunately, no definite answer can be given to this question for lack of definite material scientifically gathered and scientifically interpreted.

It is a commonplace to assert that the undersupply of household labor is caused by a social prejudice in spite of material advantages, but after all it is the accepted opinion of the employers only. Whether the employees would agree to this generalization is extremely doubtful. Each one of us has a thorough knowledge of a very few individual cases. But in the field of industrial labor such intimate personal knowledge, because of its narrow limits, is never considered sufficient material for deductions. The truth is that the conditions of household service are subject to fluctuations which are as wide as the fluctuations of woman's character. I need not tell you how wide these are.

In some homes the conditions may be ideal, the hours short, the food excellent, the wages satisfactory, in others just the opposite of all this. Were a thorough study of these conditions made, it is my

suspicion that the general picture would be very far from that sentimental view which so many perfectly sincere ladies wish to convey. In any case, the peculiar conditions of household service are that the new employee has often little or nothing to base his opinion on in advance of actual experience, except it be a certain shrewdness in estimating human nature, acquired in the course of many years. May not this circumstance alone be a sufficient explanation of the extreme mobility and inconstancy of domestic service, the greatest grievance of the employer?

Industrial labor has discovered only two effective methods for remedying specific grievances of the labor contract and the conditions of labor. These are first, cooperative efforts, technically styled collective bargaining, operating through the organization of labor unions; and second, compulsory regulation by society through the authority of law, or labor legislation.

It has been tacitly assumed that neither of these two methods is applicable to the conditions of domestic service. This appears to me to be a serious mistake. That special difficulties arise because of special conditions, no one will deny. But these difficulties are not unsurmountable. When a few years ago I dared to make the suggestion that the hours of labor of our household workers should be regulated by law, the suggestion raised a veritable storm of protest. It was dismissed as an impossibility, a dream. It was pointed out triumphantly that only a man thoroughly ignorant of the conditions of home life could devise such a plan. The inquisitive wanted to know whether I had ever employed any servants. Others were quite sure that I must be a bachelor. You cannot squeeze in three meals into eight hours, said one editor, and dismissed the preposterous suggestion therewith.

Such arguments appear simply childish, to say the least, to one who does not lose sight of the comparative point of view. The situation is not unique; it has numerous analogies in the history of all labor legislation. There never was a new labor law that was not met with the identical argument that it was thoroughly impractical, that it tried to change a condition absolutely essential to the industry, that it would destroy the industry altogether. It was claimed to be essential to run the factory full blast all through the night, it was essential that the women work more than ten hours, that the industry employ children of ten or even eight years, that all salesgirls stand

throughout the day, and that the motorman be exposed to the inclement weather, until ordered differently by legislation.

Futhermore the analogy need not go beyond the domain of household service. To the European observer new to the ways of this country, the existing conditions of domestic service would often appear to be absolutely impossible and incompatible with any degree of of middle class comfort. To the German it would appear to be absolutely unthinkable that a gentleman should polish his own shoes, shake his own furnace, or even sift his own ashes. A Russian gentleman refuses to comprehend how any middle-class American with an income of $1500 or $2000 can lead the life of a gentleman without any servant in the house at all.

Moreover, we may find interesting analogies even in our own country. Even if the conditions of household life required continuous service and even if the limitation of hours would necessitate relays of workers, the objections against it might apply to a house with one servant, but less to the household with more than one servant, and not at all to the institutional household with a large force of household employees. Supposing that such a law were to be adopted and an exception made in favor of households with only one employee, what would the chances be of the smaller households obtaining an efficient, self-respecting employee? And if this should force such families as must have hired domestic labor to some sort of limited coöperation, would that be such a very bad thing after all?

Unfortunately we have no means of even estimating the proportion of household workers who are employed by institutions rather than by private families. The statistics of families and dwellings presented by the twelfth census are very unsatisfactory and careful conclusions are impossible.

According to the data available, there were 223,000 households other than private families, or less than 1½ per cent of the total number of households. They represented a population of 2,500,000, or 3½ per cent of the entire population of the country. Proportionately, a very much larger percentage of the household workers are employed by the many and rapidly increasing institutions, such as hotels, boarding houses, restaurants, lunch rooms, clubs, hospitals, asylums, homes, boarding schools, dormitories, etc. The one fact that there were more than 105,000 waiters and waitresses is sufficiently significant.

The tremendous importance of this rapid development of institutional life for the solution of the problems of household service, has

never, as far as I am aware, been pointed out. That there are many differences in the social and economic status of labor in these large collective households on the one hand, and the private families on the other, is quite true. Nevertheless, the essential likeness of the work performed and the identical source of the labor supply is sufficient assurance that cooperation and unity of action between these two groups is entirely feasible.

It is quite evident that legislative regulation of the conditions of labor in these large households is entirely practicable. Thus, to carry further the analogy which was utilized before, the private household appears not unlike the small and antiquated shop which protests against labor and factory legislation on the ground that it cannot live up to it. But when it must live up to the law or vanish, if its existence is socially necessary it usually manages to survive.

In the other method of improving labor conditions, that of collective bargaining through unions, the large household will also prove the leader in the professional advance. The isolated position of domestic workers makes all collective efforts among them well nigh impossible; and if all household workers were in that isolated position, the hope of their unionization would be practically none. But unions of hotel employees are not at all impossible nor have they remained unknown in this country or abroad.

Even if the first efforts of unionizing female employees of such households will not prove easy, and will meet the same difficulities which lie in the way of unions of all wage working women, they are not unsurmountable. In actual life the employees of these large households already have influenced the conditions of domestic service in private homes by establishing certain standards as ideals; and protective labor legislation and direct union action will further help in the establishment of such standards, the absence of which in the private homes at present is perhaps one of the greatest objections to them from the employee's point of view.

What will these standards aim at, and what will they be? A little rational speculation as to the future may here be indulged in. Primarily they will deal with hours, of course, as does all collective bargaining, for the indeterminate length of service, if not of actual labor, is perhaps the greatest objection to domestic service that labor advances. But only next to this will come—is coming—the destruction of the medieval, patriarchal relation between the employer and employee. The fiction of being a member of the family,—at $3 or $4

per week,—has been definitely abandoned in the large households, which may be one of the important reasons for their greater popularity among the workingwomen. Why should we assume for a moment that a modern household worker is more ready to change her family affiliations at a moments' notice, and in harmony with the employment agency's advice, than would be a faithful lap dog or even a thoroughly domesticated cat? The domestic servant, if at all human, has his or her own family affiliations, not based upon a wage contract.

That a human and reasonably humane employer is preferable to one of the reverse of this is as true in domestic service as it is in manufactures or mining. But sentimental mistresses can no more be relied upon to solve the problem of domestic service than welfare work will solve the larger labor problem of factory, shop, or mine.

My suggestion that the exclusion of the servant from the house of the employer is necessary before domestic service will prove more popular with the women of the working classes, has also met with protests and derision. But such exclusion is already the rule in a great many collective households and in fact is practiced even in private households more frequently than is usually admitted.

The extremely interesting census report on Statistics of Women at Work shows that in 27 selected cities, out of 328,000 female servants, 67,000 or over 20 per cent lived at home, exclusive of those who boarded, and nearly 5 per cent were even heads of families. Naturally the proportion was much greater for the married or widowed women. It was also largest for negro women, as was to be expected because of the desire of the negro woman for independence, the employer's preference not to have a colored person live in the house, and also the married negro woman's willingness to remain a wage earner.

But it is still more interesting to note that this custom was twice as frequent among native white women as among the foreign women. It was greatest in Southern cities, being 55 per cent in New Orleans, and 63 per cent in Atlanta, but it amounted to 14 per cent even in New York and was higher in western cities (22 per cent in Kansas City, 27.4 per cent in Cincinnati and 30 per cent in Indianapolis). Thus the necessary dissociation has already taken place to a very large degree. The tendency is viewed with alarm by a great many conservative housekeepers; but in so far as it has retained in domestic service in these 27 cities alone 27,000 married or widowed women

who otherwise might not find it possible to remain there, this has actually relieved the stringency in the labor market.

Thus labor's attitude towards the problem of domestic service is after all quite simple. You must, it virtually says to the employer, improve the conditions in this field of hired labor, if you want a larger supply of labor to the field; if you want to attract us, you must make conditions more attractive. What could be simpler? The assertions of thousands of housekeepers that the conditions are already sufficiently favorable and attractive do not matter on iota, as it is for the persons employed to decide so or to shun the field.

Furthermore few of the people who are ready with their solution of the problem appreciate the fact that unless there is a radical change in the condition of domestic service, either by union action or by legislation, the difficulties must rapidly grow as the differences in the advantages of industrial and domestic service become greater.

And for this reason, backward as is this country in the field of social and labor legislation, the interest in legal protection of labor has recently been awakened, and the next decade or two will see a feverish activity in that direction. Protection against accidents and occupational diseases, compensation for accidents sustained, industrial hygiene, insurance against disease and invalidism, old age pensions, all these problems are being carefully studied and must lead to action in the near future. In all these methods of protecting the interests of labor, only industrial labor is yet considered in this country, domestic labor being disregarded. Not so in Europe, and rightly so, for the questions considered are of decided interest to the two millions of wage earners in the field of domestic service.

We are not inclined to associate accidents with work in the kitchen and yet there are several elements of danger in the work, such as handling hot water or hot utensils, building fires, inhaling gas, climbing stepladders, etc. Domestic work is usually recommended for its healthfulness, and we forget that there are numerous occupational ailments connected with the work, even disregarding the "housemaid's knee."

"No one," says Miss Rheta Dorr, "has ever suggested to legislators that sweeping and beating carpets might be included among the dusty trades; that bending over steaming washtubs and almost immediately afterwards going out into the frosty air might be harmful to throat and lungs." The criticism is correct provided it is limited to this country, but domestic service is included in the various forms of

insurance against accidents, sickness, and old age in Germany and other European countries.

The charitable housekeeper, who is lost in self-admiration because she is willing to keep the servant during the first few days of sickness before removing her to a hospital, might profit by learning that the German employer of household help is required by law to contribute one-third of the cost of sickness insurance and one-half of the cost of old age insurance. Need we emphasize how these progressive measures for the protection of the industrial worker will affect the supply of labor for the home, unless the latter is also willing to move forward? The difference in wages alone cannot remove all these disqualifications, for after all it is a peculiar feature of female labor that it gives a high valuation to other conditions of the wage contract in making its preference for this or that industrial field.

In short, equalization in the status of the household worker with that of the worker in other industrial fields is the requirement which labor presents, as yet largely unconsciously, but the demand will become clear and conscious in the future. But is it necessarily something that the employing class must view with alarm? It seems to me that the change is one which the progressive housekeeper may look forward to and be only a gainer thereby. For only through such equalization, if ever, can efficiency come to our households.

The question of industrial education is now commanding the closest attention of both employer and employee, as the only method of raising the efficiency of labor. In this connection training schools for servants are mentioned, and in a few cases have been tried, as a method of solving the problem of domestic service.

But it is perfectly futile to place any hope in training schools for a vocation that remains socially undesirable. At present the training school for cooks or waitresses is mainly used to prepare the unskilled employee of the private home for a skilled position in a collective institutional household. When the existing disadvantages of domestic employment shall be removed, either by means of labor unions or labor legislation, and the employment raised to the dignity of a skilled trade, then and only then will its natural advantage as a preparation for the management of an individual home be sufficient to overcome the existing scarcity of efficient labor.

THE HOME AND THE MACHINE.[1]

J. LEBOVITZ.

Library of Congress.

In the following paper I propose to argue that much of the present unrest in our homes is not peculiar to American life, but is rather a universal phenomenon; that it is due in great measure, to the maladjustment, physically and economically, of our medieval homes in our modern civilization; that a great factor in this maladjustment is the lack of mechanical appliances in the home, a lack due to an excessive supply of unskilled female labor; that the present gradual reduction of this excess, caused by the desertion of womankind from the home into industry, is largely responsible for the introduction of such appliances as are already finding their way into our homes; and that it is possible, by a wise cooperation of all the social groups directly interested in the modernization of the home, to expedite the process greatly, thereby shortening the inevitable and disagreeable transition period.

Every social observer knows that there is a deep and ominous unrest in all the homes of the white man's world. Everywhere, during the last thirty or forty years, the marriage rate and the birth rate have steadily declined while the divorce rate has risen; everywhere the home is being deserted by its womenkind, to serve as joyous volunteers in the arts, trades and professions, or as joyless conscripts in shop, factory and mill; everywhere the servants are in revolt, home life is giving way to restaurant life, home foods are being replaced by factory foods, home products by factory products.

And lest this be regarded merely as an alarmist view I propose to quote certain figures furnished by the statistical observatories of the world, the national censuses.

The marriage rate has shown a steady decline during this generation. Thirty years ago in England the rate was 85 per 10,000 pop-

[1] Presented at the St. Louis Meeting of the American Home Economics Association, December 28, 1910.

ulation, today it is nearer 75; in France, during the same period, the number fell from 85 to 76, in Germany from 94 to 80, in Austria from 91 to 80, in Denmark fron 79 to 71, in Norway from 73 to 62, in Sweden from 70 to 59.

The figures for the United States are more optimistic, recording an apparent increase in the rate from 87 per 10,000 of population in the period 1888-1892 to 90 in the period 1898-1902. But this is merely a "statistical increase" due more to an improvement in the methods of keeping marriage records than to an actual increase in the rate: The earlier marriage returns for most of our states are, as the census report says, very incomplete "because many states lacked compulsory requirements for the proper return and record of marriages, while some of the states which had such a requirement lost the value of it because they imposed no penalty for its non-observance." The figures for the earlier period must therefore be an under-statement while the later figures cannot possibly be an over-statement. It is safe to assume, therefore, that in the United States, as in Europe, the marriage rate has either declined or remained stationary; and some striking evidence on this point may be gained from a study of the records of those six states which have kept complete registers for forty years: Connecticut, the District of Columbia, Massachusetts, Ohio, Rhode Island, Vermont, in which states the rate fell from 98 per 10,000 population in 1870 to 88 in 1900.

The divorce rate has risen everywhere. In the United States, during the last forty years, the actual number increased from 11,000 to 70,000, or a sevenfold increase, while during the same period population has increased only twofold. Abroad the actual number of divorces and separations is much smaller than in the United States and the ratio to population is less, but the divorce *rate* is rising rapidly, having practically doubled in most of the European countries.

The birth rate has fallen steadily; in Austria from 393 to 370 per 10,000 population, in Hungary from 443 to 372, in England from 355 to 281, in France from 255 to 230, in Germany from 389 to 348, in Italy from 369 to 324, while in the United States the birth rate of the native American stock fell from 475 per 1000 women of child-bearing age in 1890 to 462 in 1900.

Women are deserting the home in a body. In 1870 there were, in the United States, 1,836,288 women at work outside the home; in 1900 the number rose to 5,319,397, precisely a threefold increase in thirty years; yet the population as a whole has only doubled,

which means that wherever there are three women at work today two represent the normal quota—as judged by the standard of a generation ago—while the third is either deserter or conscript. Of these there were over a million in 1900. They came from all classes of the feminine population—married, widowed, single, divorced—but the increase was most marked for the married group; and they entered all classes of occupations except domestic service. In other words the greatest defection was among the corps of housewives, and the occupation completely shunned was housework. Can any two facts be more significant?

As in America so in Europe. France in 1866 had 4,642,616 women workers, or 30.9 per cent of the total working population; in 1901 this number had risen to 6,804,510, or 34.5 per cent of the total working population. Germany, in 1895, had 1,547,486 women employed in various industries; twelve years later this number had jumped to 2,173,038 or 40 per cent; in trade and commerce there was an increase of 71 per cent, as against a masculine increase during the same period of only 46 per cent. And everywhere this increase in the industrial army has been made at the expense of the domestic service branch. In the United States, in the four successive decades from 1870 to 1900 the percentage of domestics among women wage earners fell from 47.58 to 36.64, to 30.37, to 24.13 successively. In England, in 1871, there were, out of every thousand women in the population ten years of age and over, 137 in domestic services; in 1881 this number had fallen to 123 and in 1901 to 101. In France domestic service is the one occupation which reports not only no numerical increase in the last generation but an actual decrease of over 300,000 (from 1,273,117 in 1866 to 956,195 in 1900). In Italy there has also been an actual decline of over 80,000 servants in the past twenty years, in the face of an enormous increase in all other occupations.

On the one hand women are deserting the home; on the other hand the factory is despoiling the home of its economic functions. A little over a century ago, as every one knows, practically all industry was carried on at home and each home was sufficient, economically, unto itself. But with the introduction of the factory system, from 1812 to 1850, one process after another was transferred from the home until today there are but a bare dozen or two true home industries and even these are feeling keenly the encroachment of the factory. Home baking, for example, is rapidly being replaced by commercial baking which has, in the past twenty years, trebled its capital, its number

of establishments, and the total value of its products. In 1880 there were 6,396 establishments, employing 22,488 workers and capitalized at $19,155,286 while the value of the products for that year was estimated at $65,824,896. In 1900 the number of establishments had risen to 14,917, employing 60,271 workers and capitalized at $81,049,553 with a total value of products estimated at $175,667,348. During the same period the population had increased only by one-half; commercial baking has therefore grown six times as rapidly as the normal course of events would seem to indicate as necessary. Home laundering is being replaced by the steam laundry which employed six times as many workers in 1900 as in 1870. Home butter and cheese making has been supplanted by the commercial manufacture which has, during the past quarter century, increased sevenfold, from $25,742,610 in 1880 to $168,182,789 in 1905.

The home as an economic unit is rapidly changing its character. How is it faring as a social unit? On this point, also the evidence is disquieting, pointing to a growing number of boarders, lodgers, and hotel dwellers out of proportion to the growth of population. In 1870 there were only 23,935 boarding and lodging-house keepers in the United States; in 1900 there were 131,116, an increase of 500 per cent. Of 25,440 families investigated by the Bureau of Labor in 1900 it was found that practically one-fourth kept boarders; of the 124,108 persons constituting these 25,000 average families about 11,000, or one in every eleven, was either boarder or lodger. As for hotel and restaurant life, it has been estimated that the capital invested in these businesses has quadrupled in the last thirty years, which means a growth twice as rapid as the population growth. An actual count of the establishments listed in the business directories of five leading cities from 1885 to 1909 shows a very general increase. In Boston, during this period the population increased only about 50 per cent, but the number of apartment hotels rose from 270 to 810, the number of restaurants from 434 to 780, the former showing an increase six times as rapid as the population and the latter three times as rapid. In Chicago the population increased threefold from 1880 to 1900 and the number of restaurants fourfold. In Philadelphia population increased 50 per cent from 1880 to 1900 but the number of apartment houses jumped from 15 in 1895 to 708 in 1909, of boarding and lodging houses from 241 in 1885 to 2858 in 1909, of dining rooms from 263 to 1013 in this period. In St. Louis the population increased only 50 per cent from 1885 to 1909; the hotels from 53 to 216 and

restaurants from 148 to 668. New York City has about doubled its population from 1880 to 1900; its hotels, however, have grown from 177 in 1886 to 431 in 1900, and its restaurants from 1357 to 3411.

If there is one fact which all these figures prove it is that all these varied phenomena of domestic unrest are not peculiar to America but rather exist throughout the Occidental world. But for phenomena so universal there must be a universal cause; and that cause, we are begining to see, is that maladjustment of the medieval home to its modern environment which is a direct consequence of the Industrial Revolution, that greatest of all changes in the history of mankind. The Industrial Revolution has transformed all modes of production, distribution and exchange; it has affected, most profoundly, every phase of our social life; yet the home, the very center of our personal life, the one place where the final process of consumption must take place, the crucible of our happiness, has remained practically untouched. Modern science has created, modern industry has builded, and modern business has socialized, a civilization which offers us, man for man, family for family, class for class, ten times as many opportunities for a rich personal life as any other civilization has ever offered humanity. Yet the average home gets pitifully little of these rich increments of civilization; it remains, in fact, virtually disinherited. The average man may, in his office or shop, command the mightiest apparatus of twentieth century power for the most ordinary of commercial purposes; a whole armory of labor-saving devices is always at his beck and call. Yet when the day's work is done he, in the quiet of his own home, turns Robinson Crusoe while his wife wastes the best of her years in a round of mechanical drudgeries. In short, the average man *works* in the twentieth century; he *lives* in the fifteenth.

This maladjustment of the medieval home to its modern environment has two aspects, one, the social-economic, consisting largely in the survival, in our family life, of certain Oriental vestigia such as the economic dependence of the wife and mother, proprietary parentage, the double standard of morality, etc., while the other, the purely physical, consists in the failure on the part of the home to appropriate for its own uses those mechanical applications which the outside world has found so useful in diminishing the sum total of wasteful labor. That this physical maladjustment plays a great rôle in the so-called servant problem has been pointed out by many writers on the subject in recent years; and it is more than probable that careful investigation into the other domestic problems may

point to this physical maladjustment as the determining cause, precisely as, in the practice of medicine or surgery, grave physical disturbances are frequently, upon investigation, found to have their source in comparatively trivial mechanical maladjustments of the system to its environment. But it is on this physical side that the problem is easiest to solve, for the patent office contains today many thousands of inventions which, when widely adopted, would serve to simplify and beautify home life enormously. Why, then, have these inventions not been socialized? The first answer to this question would be—poverty. The average man, it would be argued, is too poor to buy these luxuries. Yet, poor though he be, he does today enjoy many luxuries which no Croesus could ever buy—piped water and gas, well-diffused heat, glass windows, electric bells and many other devices. Poverty in itself is therefore not the true or, at least, the complete, explanation for the failure of the rich stream of twentieth century civilization to percolate down to the average home. The true answer is furnished by two writers in a recent magazine.[1] They say:

> During all these years there has been a plentiful supply of cheap human labor: mothers, wives, sisters, unappropriated aunts, country girls, immigrant girls, orphan girls, widows, etc., to do all this helot labor by hand. But mark what is happening under our very eyes. The past two decades have opened many new avenues of employment to women and they have rushed in eagerly, the better educated going into literature, arts, business and the professions, the less educated into offices, shops and stores, and the least educated into factory, laundry and mill. The diversion of this stream of cheap human labor has had an immediate effect in stimulating the demand for kitchen appliances. Witness the growing number of advertisements of washing machines, prepared foods, vacuum cleaners, etc., etc. A manufacturer who pays from $200 to $2000 and more for a single page insertion in a single issue of a periodical knows that there are enough homes that need his commodity to justify this apparent extravagance. And he is right. Every order that he receives is a flag of surrender from some harrassed housewife who has been battling single-handed and in vain these many years. And every order that he fills enables him to extend his market, in turn cheapening and perfecting his appliance, this in turn creating a greater demand and so on in an ever widening circle until every household shall be supplied.

But it would be manifestly absurd for society to permit so vitally necessary a process as this one of the modernization of the home to wait upon so blind and haphazard a process as here described, rapid though it be (I am informed by Mr. J. G. Frederick, of *Printers Ink*,

[1] The Depth and Breadth of the Servant Problem, by I. M. Rubinow and Daniel Durant, in *McClure's Magazine*, March, 1910.

that the advertising of household materials has probably increased by $100,000,000 in the last twenty years) and the wealth of invention now latent in the patent office cannot wait for its release upon the possible ebb in the tide of servant immigration. The time is rapidly arriving for a wise regulation of this process through the more or less conscious coöperation of all the social groups directly involved: house wives, servants, manufacturers of household appliances and materials, advertising interests, and students of Home Economics. These last three groups will, in the nature of events, be foremost in their efforts at a solution of the home problem: the American Home Economics Association, because it was organized for that very purpose of studying the needs and advancing the interests of the fifteen million disinherited homes in this land; manufacturers of household appliances and materials, for they have, obviously, a direct commercial interest in the extension of their markets; advertising interests because they, under present conditions, must inevitably profit from any growth in the home market. That some measure of coöperation between these groups would hasten the process of modernization cannot be doubted, and in the natural course of such coöperation the major function of the students of Home Economics will probably be that of acting as brake and regulator upon the over-zealous manufacturer bent upon marketing his product at the cost of veracity (for it is more than likely that many, if not most, of the appliances will be found utterly unfit for survival). Moreover, there is a reasonable probability that the advertising interests themselves will recognize, more and more keenly as the process of marketing continues, their responsibility to their readers; in fact there is already a decided tendency manifest among the leading periodical publications to exercise a censorship over their general advertising, no less than over the financial and medical advertising.

But, the question may well be asked, assuming that the home is finally modernized to the extent of the universal introduction of labor-saving machinery, could the average housewife utilize it efficiently? Is not woman naturally unfit for machinery? It is true that at present there is a distinct incapacity for or disinclination toward machinery on the part of the average woman but no sensible person will maintain that this incapacity is necessarily incurable. Mankind as a whole has only recently turned to machinery and the one sex has as yet never been given the same opportunity to utilize mechanical appliances that the other sex has had; naturally, therefore, women are less at home with these devices, and, as in the case of boys or girls who happen to be less

athletic or game-skilled than their fellows, a certain social contempt which their manifest, though perhaps only temporary, unfitness arouses has a tendency to discourage them still more. But even today there are millions of women who use machinery in mills and factories, tens of thousands who use typewriters in offices, and thousands who even drive automobiles—performing all these mechanical tasks not as smartly, perhaps, or as efficiently as men, but in fairly practical fashion nevertheless. It is more than likely, therefore, that women will easily and quickly learn to utilize, in a fairly workable way all the machinery which men will devise for them and perhaps, in the not remote future, boldly enter the field of invention themselves. All of which will mean, ultimately, nothing less than the complete and final emancipation of one-half the human race from a physical drudgery as degrading as it is totally unnecessary in an age like ours.

THE USE OF A COLLEGE RESIDENCE IN TEACHING HOUSEHOLD MANAGEMENT.[1]

MARTHA T. BELL.

Instructor in Domestic Science, The College of Industrial Arts, Denton, Texas.

In order to give a better comprehension of the work as done in Demonstration Cottage on the campus of The College of Industrial Arts of the State of Texas, we must go back and tell something of the work that prepares the students for it. The time given to this work is borrowed from the domestic art or domestic science practical work for the senior household arts class; it is the equivalent of two periods a week for a term. A written record of the work takes the place of an examination thesis in the senior Home Economics class. The work in our cottage is the practical application of the theory that has been taught in the preceding years in the household arts department, in fact—it is really the culmination of the course.

A little five room cottage on the campus used by the music department was pressed into service for the Home Economics class to work out problems for the improvement of conditions in and about the average small home. The students had studied inside and outside finish, color of walls and wood, and the selection of furniture, draperies and pictures. After a study of equipment and cost, in the middle year, the kitchen and dining room were furnished, although the dining room silver and linen are lent for the most part by the domestic science department of the college. The class that studied these problems last year will be graduated in June from the household arts department, so part of their senior work is the putting into practice of the theories mastered last year, by actually living in the cottage.

This cottage contains one living room, two bedrooms with closets, a dining room, a kitchen, a reception hall, a back hall with closet, and a bath room containing all modern conveniences, with a broad porch in front and a pergola in the rear. One bedroom is furnished with two

[1] Presented at the St. Louis meeting of the American Home Economics Association, December, 1910.

single beds, dresser, table and chairs and used by two students, while I, as chaperone, occupy the other bedroom and have general supervision of the work.

The kitchen, about 9 by 12 ft. with a chimney set into the room, is too small for a range so a gasoline stove does duty. A sink with two drain boards, a dish cupboard, a working table with shelves above and below occupy practically all the wall space with two doors and two windows. One door leads to the dining room, the other to the back hall wherein stand an ice box, a fireless cooker, and a platform scale where all foods coming in and waste going out are weighed.

The dining room has a sideboard, table, chairs, piano, stove, the necessary silver, glass, china and linen. The draperies made by the class last year are being used in the cottage but most of the furniture is rented. The hall and living room are meagerly furnished—we are looking forward to the time when the Legislature will make an appropriation for an extensive development of this experimental cottage problem. Kerosene lamps are at present used for lights, but we hope to have the house wired for electricity. The heating is done by three small stoves in which coal is burned and one oil heater in the room without a chimney.

The object of the work is to teach the student how easiest and best to accommodate herself to simple conditions and to a moderate income; how to prepare a few simple and appetizing dishes well chosen as to their food value and cost; how to lay the table in an attractive way with a limited supply of silver, china and linen; how to serve food in the most attractive way with the least outlay of time and energy such as would be done in the home without a maid; and how to clean and keep in order the smooth surfaces and floors of a cottage.

Our senior class is divided into sections of three girls each; every section lives in the cottage for three weeks. During this term each girl in turn serves a week as cook, assistant, and housekeeper. In detail, the girl who cooks or the "lady of the house" makes menus under the supervision of the teachers of domestic science, care being taken to have as well balanced and varied rations as the market and season will allow, trying always to keep the cost within a limit. Chicken is served once a week and meat is always served once a day. The students find they do better work on a light mid-day meal. Two vegetables are served at dinners and a dessert; when guests are present a salad is added to the menu. A soup would take the place of one vegetable or a dessert. The lunch consists usually of sandwiches and tea or cocoa and occasionally preserves are added. The morning meal

is not the full American breakfast, but bacon or eggs may take the place of a cereal with fruit, coffee, bread, or toast.

The "lady of the house" not only plans menus but orders the food materials, cooks, and serves the meals with the help of the assistant. The assistant's duties are to lay the table, serve, and wash the dishes—the next week she will be in charge with the housekeeper as her assistant. The housekeeper has the care of uncovered painted floors and woodwork in a cottage used daily by the music department. Once a week the college janitor is supposed to wash the floors and wipe off the woodwork and once each month wash the windows. The housekeeper uses daily a mop sprinkled with kerosene and follows it with a broom covered with an outing flannel bag in order to take up the dust and lint left by the mop. The dusting is done with a dampened dust cloth. When guests are expected the housekeeper may be pressed into service in the kitchen as she would be in the home.

Each girl is entitled to entertain formally four guests who are connected with the school or are deeply interested in the problem. We feel that the entertaining is as valuable as any part of the work for it means special preparation and care and gives the added advantage of meeting socially older and broader people.

The chaperone has no special duties except the care of her own room; but she is everywhere, seeing how the work is done, how the time is used, how busy the scales are, how palatable the food is, and how it is served. In these and other ways she judges the executive ability, thoroughness, daintiness, and general responsibility of each student. As all orders go through her and she "O. K's" the bills, she emphasizes economy and directs the interest of the students to a good choice of foods, for instance to fresh vegetables and meats rather than the use of canned goods.

The menus are varied to suit the food on hand, also the combining of "left-overs" into appetizing dishes is encouraged and approved. The expense of food materials in an ordinary home is relative to the time and energy the housekeeper has to give to the work. The more expensive foods, meats especially, can be quickly cooked, while the cheaper foods require time, fuel, and experience to make them acceptable. Since our students do not have time for much cheap cookery while carrying a schedule of about thirty periods in college, they use some expensive foods; yet their bills are not high, for nothing is wasted. A fair estimate of the cost of food materials in a small family is $2 per person per week. The average expense for each person, per week, in the cottage, including kerosene for the lamps, gasoline for the stove,

and ice is approximately this sum. In explanation we should say meats, home killed, are cheap, 12½ to 18 cents per pound; eggs are from 25 to 30 cents per dozen but are considered too high to use freely even at 30 cents; cream is 30 cents a quart and skim milk 10 cents a gallon. The daily order for the dairyman has been one-half pint of cream and 1 quart of skim milk.

The value of the equipment is estimated as follows:

Furniture rented, $170; furniture loaned, $25; draperies, rods, etc., $25; linen loaned, $25; silver loaned $25; glass loaned, $3; stove and oven $21; other kitchen equipment $40; making a total of $314.

Before going to the Demonstration Cottage the students report to the college physician to be examined as to their general condition; their weight is taken and blood tested. This is repeated at the end of their residence in the cottage and the records compared. In every case but one there was an increase in weight, general condition, and in the number of red blood corpuscles. At the end of this experiment a complete dietary study is made by each girl for her week as cook. An estimate is made of the cost of the food, the amount of waste discarded, and the nutrients (carbohydrates, fats and protein) consumed, with their values in calories. The hours which each person devoted to sleeping, to light exercise, to study or other mental work are ascertained, as well as the number of calories required in accordance with the different weights. It was found that the number of calories required and actually obtained have been well balanced, the nutritive ratio being approximately 1:5. A further evidence that the standards of right living were observed was shown in the increase of energy, force, and power.

Perhaps I can give no more fitting conclusion than the written statement of one of our seniors who recently spent three weeks with me.

> The good I derived from my three week's stay in the Demonstration Cottage can not be over-estimated. The week I was "lady in charge" I gained more practical knowledge of the management of a well organized household than a term of class work in cooking or Home Economics could have given me. I found it did not retard the usual progress of my regular senior course, in fact it helped me to do better work, since it was found that my physical condition had improved greatly.

In this particular phase of our work we live up to the motto of our school—"We learn to do by doing."

[NOTE:—The instructors in charge of this novel work desire to learn of other institutions engaged in similar undertakings.—ED.]

EXPERIMENTS IN TEACHING CHILD CARE IN THE PUBLIC ELEMENTARY SCHOOLS.[1]

MARY WRIGHT.

Assistant to the Superintendent of Schools and Director of Household Economy, Philadelphia.

Our ideas of the province of the public school have undergone many changes within recent years.

The importance of providing for the physical development of the child was recognized by certain forerunners of modern educational thought from the beginning of the sixteenth century, but it is only in our own day, since the application of methods of scientific research to the study of the relation between mind and body in infancy and early childhood, that the close dependence of the child's intellectual and moral powers upon the healthy growth of its body has been understood.

The result of the spread of this new idea has been to direct the attention of persons engaged in the conduct of schools to the study of each child, individually. The "average child" is no longer heard of. The individual child—regarded physically first and then mentally —and the causes that have combined to make it what it is, with the means for correcting its bodily and mental disabilities, occupy much of the time of all who are interested in educational affairs. More and more the health problem, the problem of the physical well-being of the child, enters into the general school problem. School gardens. playgrounds for children, the school doctor and the school nurse, special classes and schools for all sorts of defective children, and the feeding of imperfectly nourished schoolchildren by the public authorities, are now regarded as necessary adjuncts of the educational system of the state. Domestic science and domestic art, which together touch more or less directly upon every question relating to the home, have become a part of the curriculum in elementary and secondary schools.

[1]Presented at the St. Louis meeting of the American Home Economics Association, December, 1910.

As yet, however, the efforts of the school for the physical upbuilding of the people are largely concerned in the correction of defects in children of school age, and the special agencies employed are in the main corrective. But prevention is better than cure, and here and there plans are being devised for reaching the homes through the school, and for instructing the mother, the child's first teacher and guardian, in things she ought to know and do, for the child's good.

A direct attempt to reach mothers in this way, through their children, was made during the past spring and summer in Philadelphia. The aim was to spread a knowledge of the simplest rules of hygiene and of the proper care of infants, in the hope of lowering the infant death-rate, which especially during the summer, is a matter of concern to all thoughtful persons. The reports from year to year of Dr. Joseph S. Neff, Director of the Department of Public Health and Charities in Philadelphia, who has given special attention to the investigation of the causes of death among infants, show that from one-half to two-thirds of these deaths are preventable. "It is not professional knowledge that is lacking here," Dr. Neff states, " so much as the means of popular instruction in personal and domestic hygiene."

In April 1909, at the instance of Dr. Neff, a meeting was called at the mayor's office for the purpose of organizing a movement of an educational character along these lines. The men and women who attended the meeting represented the Department of Public Health, Bureau of Municipal Research, Board of Education, Congress of Mothers, Home and School League, and other allied organizations. An association, to be known as The Philadelphia Alliance for the Care of Babies, was formed, with Dr. Neff as Chairman.

The Alliance began its work immediately. Plans were adopted for securing a supply of good milk and the employment of extra special nurses, and also for the instruction of mothers by means of short talks or lectures on the care and feeding of infants, home sanitation, and the selection and cooking of foods, with special reference to the mother herself, as well as the other members of the family. The superintendent of schools tendered the use of school buildings for lectures and other educational purposes. The department of public health issued a special circular, for free distribution, on the care of infants, and a series of short papers on infant hygiene was prepared, one of which was published weekly in the newspapers. Every method possible was used in conducting the campaign against sickness and death, and without doubt a large number of infant lives were saved.

The attempt to instruct the mothers, however, met with little success. Some were of low mental ability and too untrained to be benefitted in this way; many were of foreign birth—Russians, Italians, and Poles—who did not understand English and could only be reached through an interpreter.

Dr. Neff's report for the summer of 1909, that is from June 1 to September 30, gives the number of infant deaths as follows:

Under one year of age	2406
Between one year and two years	3448
Between two years and five years	1006
Total under five years	6860

The statement is made that 4471 of these deaths, or nearly two-thirds of the whole number, were preventable.

In preparing to reorganize the work for the summer of 1910, it was decided that a new method of procedure must be devised. At conferences which were held it was suggested that the simplest and most direct way to reach the mothers was through the girls in attendance at the public schools, many of whom as "little mothers" spend their time out of school in nursing younger brothers and sisters; and that if these could be taught the proper way of taking care of the baby they would carry the teaching home. The superintendent of schools was in entire accord with the suggestion, and steps were taken at once for formulating a plan to carry it out.

At first it was proposed to drop all sewing lessons during May and June and to use the sewing periods for the instruction, and that all girls from the third grade up should be included. It was also suggested that the teachers of domestic science should assist in the work. These ideas were all found to be impracticable, and the instruction was finally limited to girls of the grammar grades, whose ages range from ten to sixteen years. Principals and class teachers were all in sympathy with the work and no difficulty was met with in arranging periods for the lessons. It was decided that the instruction should be given by five school medical inspectors, specially selected for the work, aided by five school nurses. The director of household economy was asked to visit the schools and make the necessary arrangement of classes.

Classes of from fifteen to twenty girls each were organized in six schools, all situated in the most entirely foreign section of the city.

The lessons for the younger pupils were limited to forty-five minutes; with the older pupils they sometimes lasted an hour. At every lesson a mother with a little baby was present, usually the mother of some child in the class, and practical demonstrations in undressing and dressing the baby, bathing it and washing its mouth were given. The girls were also shown how to warm the milk and put it into the bottle, and how to wash the bottle.

The presence of the live baby in the class aroused great enthusiasm and made the teaching easy and very effective. It was proposed at first to use a large doll for the demonstrations, as it was thought mothers might object to coming to the school, but after the first lesson more babies were offered than could be made use of.

The teaching was entirely informal. The doctor usually began the lesson by a simple talk with the children about cleanliness in general and the harm done by flies and mosquitoes, giving some simple rules of hygiene and leading up gradually to the baby and how to feed and take care of it. As both physicians and nurses were accustomed to school work they understood how to address young people, and the girls, recognizing them as old acquaintances, were not afraid to ask questions. From time to time it was impressed upon the pupils that the baby at home must be taken care of just as they were taught to do in school. All were intensely interested in the lessons, and mothers sometimes came to the schools asking that they might learn with their children.

The work began on May 25 and continued until the end of June. Good results from the instruction given were noticed at once in the homes by visiting nurses, physicians, and others engaged in social work. In July a baby refuge or nursery center was established on each of the two city piers which had been set apart as children's playgrounds for the summer. The director of physical education and the superintendent of playgrounds, who were interested in the movement, assisted in the arrangement and furnishing of the nurseries. The Philadelphia Playgrounds Association supplied cribs, cots, hammocks, ice chests, and other articles needed.

Two nurses were assigned to each pier, one of whom was always on duty. One pier was kept open day and night, the other from 8 a.m. to 10 p.m. Sick and weakly infants were sent to the nurseries by physicians and visiting nurses. Sometimes the mother brought the child and left it with the nurses, sometimes she remained with it all day. In some cases mothers brought all their children and passed

the day on the pier, the older children being sent to the playground, while the little ones were cared for in the nursery. Milk was sold at a cent a glass, crackers of some kind being served with it. When necessary the milk was furnished free of charge. Every day two lessons were given to mothers and older girls on the care and feeding of the infant and the care of the home, similar to those which had been given in the schools.

In a report issued by the Department of Health, it is stated that in those wards of the city in which special work in fighting infant mortality was carried on last summer the death-rate of children under one year of age was 40 per cent less than in other parts of the city, taken collectively.

It is not claimed that this gain is wholly the result of the lessons given in the schools, though there is every probabiltiy that they contributed to it. The good accomplished indirectly by the training of young girls in the simplest duties of motherhood, by arousing interest, overcoming prejudice, and spreading valuable knowledge in reference to the conservation of human life among the simple, the helpless, and the ignorant cannot be estimated. It is likely that the lessons will be resumed during the coming spring, and that the work will be extended to other parts of the city.

INFANT FEEDING.[1]

MRS. MARY E. WILLIAMS.

Supervisor of Domestic Science, New York City Public Schools.

Child building is an art, and to be instrumental in laying the foundations of a life which shall show strength of mind and body is a glorious work indeed.

Beside season and climate, the most important factors which influence diet are the age and the condition of the individual; and for our purpose we may divide life into three stages: First, the period of growth and development, including infancy and childhood, up to the tenth year; second, the period of adolescence; third, the period of decline. The first may be ranked as that of the most importance, since to make a good start is to provide material upon which to rely through the trying years that are to follow.

In the course of study in the New York City public schools there are outlined lessons on this subject which may be presented to the children in a simple and effective manner. The value of the mother's milk is emphasized, it being the ideal food for the baby. We then consider the value of cow's milk as compared with this and thus find the necessity for modifying the cow's milk in order that the composition may approach as nearly as possible that of the mother's milk. No formulae are given but principles and methods are explained. The fact that reliable physicians must prescribe the formulae is emphasized.

This leads up to the consideration of the various channels through which cow's milk passes before reaching the child, the result of these not infrequently being impure and unclean milk. This being the case it becomes necessary to teach its correct pasteurization, and in this lesson the use of the simple homemade pasteurizer is demonstrated. Then follows the care of the milk in the household, the importance of absolute cleanliness of all utensils, and the necessity of keeping the

[1]Presented at the St. Louis meeting of the American Home Economics Association, December, 1910.

milk covered and in a cool place. An important consideration when cow's milk must be used is the kind of bottles for the feeding. These must be of such shape and size as can be easily and thoroughly cleansed; the nipples also, must meet these requirements.

It may be interesting to note here that such an advance has been made in public enlightenment that it has now become difficult to obtain the incorrect kind of feeding bottle. The thorough cleansing of the bottles and the proper care of them when not in use is explained and demonstrated. Particular note is made of the importance of this, in order that no stale or sour milk shall find its way to the baby's stomach. Putting into the bottle only enough milk for one feeding; warming it to the proper temperature by standing it in warm water; covering it with a perfectly clean tip, and regularity in feeding are points brought out in the lesson. Charts are used in the lessons showing the size of the stomach at birth and up to six months, illustrating also the amount of food for the size of the stomach at the various ages.

Another point made is that the baby should have water between feedings and that the water should be boiled, covered, and put into a cool place. The harmful effects of giving the baby foods which it cannot digest are explained.

The aim in these lessons is to awaken the child to the necessity of proper food for the baby and to the dangers which result from neglect. If the report of John Purroy Mitchell, President of the Board of Aldermen is true that "4000 of the 16,000 babies, who die in New York City annually under one year of age, perish from bad milk, and that the most important factor in saving the babies is the mother," there seems good reason to believe that the proper instruction of many of our "little mothers," who are to become in truth the mothers of the next generation, should be of practical value in lowering the death rate from such an unnecessary cause.

The interest which the pupils manifest and the intelligent questions they ask show that the need of practical scientific knowledge upon such a vital point is recognized even by the childish mind, and to supply such knowledge is not only our duty but our privilege.

We put into the hands of the children pertinent information which may be applied at once in their homes, and which will be taken with them to homes of their own—homes from which the nation shall draw its citizens.

INSTRUCTION IN THE HIGH SCHOOL IN REGARD TO THE CARE OF INFANTS AND CHILDREN.[1]

ELLA HENRY.

Supervisor of Domestic Science, Public Schools, Denver, Colo.

There are certain obvious details to be taught in the high school in regard to the care of infants and children; in addition to these, certain sex problems are involved. The foundations for such instruction should be laid in childhood and not postponed until the individual reaches the high school; it should be begun at the time when everything is new and wonderful and accepted as the natural order of things; at the time when the growing child through its developing interest begins to ask questions. These questions should be answered when asked, with truthful and appropriate information which will guide its thinking into right channels. The child thus prepared, with the fundamental knowledge of life as a basis, may be given instruction of a specific technical nature.

The question in hand is what should be the teaching in the high school in regard to the care of infants and children. The actual subject matter given is to be the superstructure placed upon the study of bacteriology and of hygiene. Bacteriology in the high school, bearing as it does upon only a very elementary study of molds, yeasts and bacteria, still offers wonderful opportunity for explanations of the life processes; through hygiene are taught physiology, personal hygiene, and emergencies, the nature of various diseases, and home care of the sick; and through all of these, particular application may constantly be made to infant and child life.

Further specific instruction should be given in regard to how to bathe the infant, which can best be taught by actually bathing a young baby in class when possible; in the use of powders, how to care for mouth and eyes; care of the organs of sex, attention to the bodily functions that influence these organs, care of napkins, et cetera.

[1] Presented at the St. Louis Meeting of the American Home Economics Association, December, 1910.

Instruction as to care, regularity and frequency in feeding, with the making of a comparison of the infant's natural food with artificial foods, *e.g.*, modified milk and foods other than milk, is of importance, and entails also a consideration of the care of the milk and the bottle. Related to the question of feeding is a study of infant disorders and of symptoms which should determine the need for a doctor's services.

A study of the proper clothing for an infant, with the planning of the detail and cost of an infant's layette, may be completed after a visit to an infant outfitting shop. Other important considerations are the kind of a bed an infant should sleep in, its care, why an infant should not sleep with older persons, how it should get its "exercise" and fresh air, when it may sit up and begin to walk.

As the infant develops, diet, physical exercise, hours of sleep, bathing, care of the postures of the body, proper outlets for physical energy and the securing of proper physical and mental rest and recreation are to become matters of intelligent concern. The child's environment, early religious and educational training, the books he is to read, his friendships, and oftentimes more intimate manifestations of his unfolding life, may be discussed with interest and profit.

Since many girls reach the high school without having been given the fundamental instruction referred to in the beginning of this discussion, it may be necessary to supplement the technical training suggested with incidental discussions of some of the fundamental laws which govern human relations, whenever opportunity is presented in the course of the regular routine work. The person who performs this difficult task should possess both tact and scientific knowledge, and should be familiar with scientific terminology, the use of which will eliminate the possibility of the suggestion of any disagreeable impressions, which might easily result from an unskilled discussion of the specific relations of human beings, the responsibilities of these relations, their dangers, and their far-reaching influence.

The goal towards which the high school teacher should strive, therefore, through her instruction in regard to the care of infants and children, is that of giving the high school girl the foundation for becoming an efficient future mother. The work of the Mother's Congress and the feeling of responsibility on the part of parents which is being generally aroused throughout our country will be of inestimable assistance to the teacher whose privilege it is to direct our high school girls in these vital questions of life.

HOW TO PLAN MEALS[1].

EMMA S. JACOBS.

Director of Domestic Science, Washington Public Schools, D. C.

Though some persons eat six meals a day and some only one, some eat well-cooked food and some eat raw food, no man has proved we can do without it altogether, so we must plan for the eating. Let us take as our ideal the man who eats plain, well-cooked food three times a day and assume that all he eats is quickly and completely digested and used.

The breakfast consists of a cereal with fruit and top milk, served together or separately, a light meat food with an appetizer or relish, bread, butter, and a beverage. The fruit may be omitted and the cereal served with butter or sugar and milk. The cereal may be omitted and the amount of meat food, bread, and butter be increased, or the breakfast may consist of fruit and cereal only, provided enough cereal is eaten.

The ordinary dinner consists of one meat, one starchy vegetable, one green vegetable and salad or two green vegetables, with bread, butter, a beverage, and a sweet dish. A light soup may be served with such a dinner if desired, but not a cream soup. The meat may be omitted and a cream soup or stew or some escalloped dish having cream sauce in it, or a dish made of macaroni and cheese, or peas and beans with fat meat, substituted for it. The salad or the dessert may be omitted and fruit and nuts be served at the end of the meal.

For luncheon or supper we may serve one hot nourishing dish, one relish, something sweet and the customary bread, butter and beverage. The hot dish may be a milk soup, cocoa or an escalloped dish, and the sweet one may be fruit or a simple dessert.

The combinations to be avoided in one meal are such as the following: Rolled oats, broiled steak, poached egg, and waffles; cream soup of oysters, roast beef, macaroni and cheese, and a custard; a

[1] An abstract of an address given January 9, 1911, before the Association of Housekeepers' Clubs, Baltimore, Md.

meat with a meat salad and a dessert made of milk and eggs; white potatoes, sweet potatoes, rice, and a dessert made of tapioca and fruit. In these combinations there is too much of some food principal and not enough of others. They are not balanced.

The food principals are five in number and are known as protein, carbohydrates, fat, mineral matter, and water. Under the head of protein we have albumen of egg, meat, milk, and vegetables, also casein of milk, gluten of wheat, legumen of peas and beans, and myosin and other compounds of meat. These are the things which build and repair the tissues of the body. At the same time they also yield some heat, but as their special work is to build, and as during the process of digestion when too much is eaten certain compounds are formed which tax the body in eliminating them, they should be eaten only in amounts to keep the tissues well built. Moreover, most of these foods are the expensive articles of diet, so by eating more than the amount required the cost of the meals is increased.

The best known of the carbohydrates are the sugar and starch of foods. These yield energy in the form of heat and the power to do work. If an over-amount of these be eaten the surplus is stored as fat, and fat can be kept down by exercise in the open air. Cellulose is another of the carbohydrate group, but as little if any of it is digested by man it neither builds nor yields energy, but it aids digestion and assimilation by spreading the nutrients over a larger surface and by stimulating the muscular action of the walls of the intestines.

Fat is the third food principal. It is obtained from meat, milk, eggs, cereals and nuts. It yields energy and much more of it according to its weight than do either the protein or carbohydrate group.

Mineral matter is the fourth and is obtained from green vegetables, fruits, cereals and milk. If these foods are all well represented in the diet, there is no need to fear a deficiency of these constituents. This group yields no energy nor does it build, but without it parts of the body would suffer as the mineral is essential in the building of these parts. This group aids digestion. Water is found in varying quantities in all foods and is of course taken at the prompting of thirst.

A man weighing 154 pounds, doing an ordinary day's work, requires a certain amount of energy. This has been found, on an average, to be the energy expressed by 3500 calories of heat, therefore when planning meals for such a man the amount must be provided in food which will yield this heat and it must contain from 90 to 115 grams of available protein for building the tissues. Food containing 4 ounces of protein and 4½ ounces of carbohydrate will meet the above require-

ments, but as such food contains water, mineral matter and cellulose it may actually weigh in the raw state from 3 to 4 pounds.

Information respecting the composition of food products and the energy they will supply can be obtained from a recent bulletin.[1] In this, the protein content is expressed in percentages so that the fractional part of the ounce can be computed; the energy from a pound is given so that for the ounce can be found. With this information and a reliable set of scales the housewife should make up her menu as described below; then she should weigh out the food for her family often enough to be sure she is furnishing them the right amount of nutrients. It will save her from buying more of the perishable material than she can use, and cooking more than should be eaten. It will help her to put her housekeeping on a good business basis.

The following menus are worked out for one person and show how the foods may be put together for a meal. The weight is that of the raw food ready for cooking so care should be taken to lose none of it.

Typical Correctly Balanced Menus.

KIND OF FOOD.	WEIGHT.	COST.	PROTEIN.	ENERGY.
	oz.	*cents.*	*oz.*	*calories.*
Breakfast No. 1:				
Apricots stewed, or peaches, apples, or pears	2	2.25	0.094	161
1 shredded wheat biscuit	2	1.00	.188	323
½ gill milk	2¼	0.62	.074	46
1 egg omelet	2	3.00	.201	68
2 rolls	2	2.00	.170	163
1 inch cube butter	1	2.25	.....	224
2 level tablespoonfuls coffee	½	1.12	.....	...
1 level tablespoonful sugar	½	0.18	.....	57
	12¼	12.42	.727	1042
Luncheon No. 1:				
2 slices meat roll	2	3.00	.450	162
1 potato in salad-hot	4	0.50	.088	96
2 tablespoonfuls cooked salad dressing	1	0.75	.042	24
3 slices bread	3	1.00	.273	210
1 inch cube butter	1	2.25	....	224
3 canned peaches	8	3.00	.042	110
1 or 2 sponge cakes	2	2.00	.061	112
	21	12.50	.956	938

[1] U. S. Dept. Agr., Office of Experiment Stations, Bul. 28.

KIND OF FOOD.	WEIGHT.	COST.	PROTEIN.	ENERGY.
	oz.	*cents*	*oz.*	*calories*
Dinner No. 1:				
2 slices roast lamb with mint sauce	4	0.75	0.768	264
¼ cupful rice	2	1.25	.160	324
¼ cupful canned peas	2	2.25	.072	32
4 or 6 leaves lettuce	1½	2.50	.018	9
1 tablespoonful oil for dressing	½	0.33	....	85
Tapioca and apple pudding	3	2.68	.096	269
2 level tablespoonfuls coffee	½	1.12	....	...
1 level tablespoonful sugar	½	0.18	....	57
3 slices bread	3	1.00	.273	210
1 inch cube butter	1	2.25	....	224
	17⅝	18.31	1.387	1474
Total for first day	51½	44.23	2.87	3129
Breakfast No. 2:				
8 steamed dates, or apple sauce or fresh fruit	2	1.50	.042	140
Cornmeal mush	2	0.40	.168	207
½ gill milk	2¼	0.62	.074	46
2 slices bacon (breakfast)	1	1.12	.1	65
Creamed potatoes (½ potato and ¼ cup sauce)	4⅞	1.52	.096	90
3 slices bread	3	1.00	.273	210
1 inch cube butter	1	2.25	....	224
2 level tablespoonfuls coffee	½	1.12	....	...
1 level tablespoonful sugar	½	0.18	....	56
	17⅛	9.71	.808	1038
Luncheon No. 2:				
3 codfish cakes (1 oz. fish, ¼ egg, 1 potato)	5½	2.12	.345	92
3 slices bread	3	1.00	.273	210
A1 inch cube butter	1	2.25	....	224
Stewed prunes	2	1.00	.042	174
3 or 4 cookies	1	1.00	.07	120
	12½	7.37	.730	820
Dinner No. 2:				
Cream soup of spinach, or corn, tomatoes, or peas	5⅛	1.89	.126	113
Macaroni with cream sauce and cheese	5⅜	4.39	.450	396
Stewed canned corn	2	2.00	.056	57
Stewed canned tomatoes	2	2.00	.022	32
Apple and celery salad (with cooked dressing)	2½	3.00	.072	46

KIND OF FOOD.	WEIGHT.	COST.	PROTEIN.	ENERGY.
	oz.	*cents.*	*oz.*	*calories.*
Dinner No. 2—Continued:				
Fruit gelatine with cream	1⅛	4.62	0.939	121
3 slices bread	3	1.00	.273	210
½ inch cube of butter	½	1.12	....	112
2 level tablespoonfuls coffee	½	1.12	....	...
1 level tablespoonful sugar	½	0.18	....	57
	22⅝	21.32	1.938	1144
Total for second day	52¼	38.40	3.4759	3002
Breakfast No. 3:				
¼ cupful coarse hominy	2	0.31	.166	206
3 sausage cakes	3	3.75	.390	398
3 slices toast	3	1.00	.273	210
½ of 1 inch cube butter	½	1.12	....	112
2 level tablespoonfuls coffee	½	1.12	....	...
1 level tablespoonful sugar	½	0.18	....	57
Stewed prunes	2	1.00	.042	175
	11½	8.48	.871	1158
Dinner No. 3:				
Beef stew with potatoes and dumplings	8	3.66	.449	330
Boiled rice	2	1.25	.160	324
Spinach, kale, curly cabbage, or other green	2	1.13	.042	32
1 thick slice cherry roll	5½	2.66	.217	353
Butter and sugar sauce	1½	1.70	....	225
2 slices bread	2	0.66	.182	140
½ of 1 inch cube butter	½	1.12	....	112
	21½	12.18	1.05	151
Supper No. 3:				
½ cupful cottage cheese with cream	5	1.66	1.145	160
3 potato cakes	4	1.00	.088	96
3 slices bread	3	1.00	.273	210
¾ of 1 inch cube butter	¾	1.68	....	140
½ pt. cocoa	5¾	1.94	.216	193
	18½	7.28	1.722	799
Total for third day	51½	27.94	3.643	3473

The following table shows the quantity of some of the standard articles of raw food that are served to the individual for one meal. It also shows the amount of protein (in ounces) it contains, the amount of energy it yields, and its cost. The cost is based on the retail prices in the Washington, D. C., markets in January, 1911:

Weight, cost and nutrients of individual portions of some common foods.

FOOD MATERIALS.	WEIGHT.	COST.	PROTEIN.	ENERGY.
	oz.	*cents.*	*oz.*	*calories.*
2 level tablespoonfuls coffee for 1 cupful.	½	1.12	....	....
1 level tablespoonful sugar	½	0.18	....	57
1 level tablespoonful butter = 1 in. sq. × ½ inch thick	½	1.12	....	112
2 level tablespoonfuls flour (sifted)	½	0.12	0.005	52
1 level tablespoonful olive oil	½	0.33	....	85
1 level tablespoonful cocoa for 1 cupful	¼	1.00	.054	38
2 level tablespoonfuls fine tapioca	½	1.00	.002	51
¼ cupful cornmeal	2	0.40	.168	194
¼ cupful cream of wheat	2	0.31	.220	210
¼ cupful rolled oats	1⅛	0.12	.195	135
¼ cupful rice	2	1.25	.160	324
¼ cupful canned beans	2	2.00	.022	32
¼ cupful canned peas	2	2.25	.072	32
¼ cupful canned tomatoes (home product)	1	1.50	.012	65
¼ cupful coarse hominy	2	0.75	.116	206
¼ cupful cottage cheese	2⅓	0.62	.522	80
¼ cupful milk for cereal (½ gill)	2½	0.62	.074	46
¼ cupful cream sauce for vegetables	1 7/16	0.63	.026	34
¼ cupful cream sauce for escalloped dishes	2⅞	1.26	.052	68
¼ cupful cream sauce and ¼ cupful milk for cream soups	5⅛	1.89	.126	113
3 slices bread, ½ in. thick, 4 in. square	3	1.00	.273	210
8 dates	2	1.24	.042	202
6 prunes	2	1.00	.042	175
1 apple	2	2.00	.008	27
Dried apples, peaches, pears, apricots	2	2.25	.094	161
2 canned peaches	5	2.00	.035	69
1 egg (medium)	2	2.00	.268	96
1 potato (medium)	4	0.50	.088	96
6 lettuce leaves	1½	2.50	.018	9
Trimmed kale, spinach, other greens	3	1.13	.042	32
2 thin strips breakfast bacon (if melted fat from it is also used)	1	1.12	.155	130
Macaroni	1	1.25	.134	104

FOOD MATERIAL.	WEIGHT.	COST.	PROTEIN.	ENERGY.
	oz.	*cents*	*oz.*	*calories*
Cheese (American)	½	0.62	0.144	64
1 strip ham (1½ in. wide, by 3 in. long)	2	4.50	.326	242
2 slices roast lamb or beef	4	4.50	.768	264
Raisins	1	0.75	.026	100
1 banana (without skin)	5	1.00	.065	144
8 English walnuts (shelled)	1	2.00	.166	205
16 almonds (shelled)	1	2.50	.210	189
2 loin chops (trimmed)	4	9.00	.640	424
3 sausage cakes	3	3.75	.390	398
2 potato croquettes (1½ in. dia. 2½ in. long)	3	2.16	.061	56
2 white onions	6	1.25	.096	84

THE CHOICE OF COOKING UTENSILS.[1]

HELEN LOUISE JOHNSON.

Associate Editor of "Good Housekeeping."

I hope I may be understood as desiring to make a helpful criticism when I state that one of the results of my year's work has been to show me how little judgment is shown in the equipping of the usual cooking laboratory or Home Economics department.

Not long ago I visited a normal school which had just been equipped by a teacher of some experience. I was intensely interested because I knew that school would be taken as a model for many others to follow.

I looked over the equipment wondering why such and such things had been done and the teacher came up to me while I was looking at a badly chipped enamel-ware dish pan. She remarked: "All my enamel ware has chipped so badly." And I asked, "Why did you buy that kind?" She replied "Because it matched *so well with my color scheme!*" This teacher had a liberal sum for equipment but she had chosen to buy Haviland china and poor enamel ware for a normal school where she was training young women to teach right living, thus showing utter ignorance as to actual values in utensils and putting before her pupils the wrong standards.

One of the first things the teacher of Home Economics is usually called upon to do is to outfit a department in whole or in part. And constantly is she asked questions concerning labor saving devices or kitchen furnishings. It is not enough that she should know where to get the best utensils for the least money. She should know how and why to select utensils for the various household uses. How can the teacher select utensils and having selected, properly use them and having used, care for them if she does not know of what they are composed, or what in fact, they *are?* The thing that has impressed me most in lectures and papers on cookery is a lack of reference to the

[1]Extracts from a paper presented at the St. Louis meeting of the American Home Economics Association, December 28, 1910.

part the cooking utensil plays. In jelly making, evaporation is much more rapid in an aluminum than in an enamel pan. In bread making the bread pan and the oven are matters of as grave concern as the flour, yet the results are all based on ingredients and not on utensils.

Some simple questions put to an advanced class will have surprising results. What is the difference in food value in spinach and cabbage cooked in a casserole, in a fireless cooker or in steamers of the newer type, in place of the steamer in which whole meals are cooked? When steaming is spoken of what cooking device is meant? Steaming potatoes in the ordinary way differs widely from the result in some of the recent patented steamers. How do you measure the efficiency of a coal stove? What is the ultimate test of a gas stove or how do you distinguish a good gas stove from one less perfect in construction? By what reasons can you justify the selection of a certain refrigerator, fireless cooker, etc?

Let us for one moment dwell on the fireless cooker. Here we have a cooking device which the manufacturers advertise as essentially simple. All one has to do is to put a given amount of food and a supply of heat in a box and leave them there long enough for the two to combine. Perfectly simple, is it? How long is long enough? Does the shape or size or construction of that box have nothing to do with the result? Does the box radiate heat? Is any conducted away? If so, how and where, and how can this be overcome? When one has thoroughly analyzed a fireless cooker it will have to be conceded that it is one of the intricate cooking devices from the point of view of science and not perfectly easy to use successfully.

Do you remember Mr. Atkinson's famous directions for cooking? "Take one part of gumption and one part of food. Combine them in suitable pots and pans and put them into the box with the heat, leave them there long enough to cook the food." Perfectly simple, sounds like a fireless cooker, but what are "suitable pots and pans?" And what is "gumption?" It is more than applied common sense, unless common sense means the result of a highly developed reasoning faculty combined with remembered and applicable experience.

In one of the technical magazines not long ago, there appeared an article on coal, a marvelous little article, showing how, year after year, men had ignorantly let the precious heat units blacken the sky and pollute the air; had been cheated by quarters and halves of tons in the heat units they should have received until some one began to awaken to the fact that these could be saved. To sell coal by the heat

units it produces or contains, to measure gas by heat and light units instead of by feet, to sell electricity off the peak at 5 cents the kilowatt hour for heating and cooking purposes, all this is merely the result of the demand created by necessity, the necessity of conserving public as well as private means.

We admire lives governed by altruistic motives, but when all is said and done, nothing more closely affects us than that which touches the pocketbook. Tell the manufacturer that he ought to do thus and so for his workmen because it is right, and he thinks about it. Show him that it increases their efficiency, thereby his output, and he does it. No argument carries one-fourth the weight of the one for financial saving. Preventive measures in disease, poverty and crime are rarely carried on with enthusiasm until town, city and state are shown the saving in prevention in the place of cure or punishment.

This is almost painfully true in those things which are part of the work of the home. Until it can be shown that a device saves money there is no use in saying much about its use in the home.

In Mr. Lebowitz's paper (page 141) he virtually says that the solution of the difficulties arising from lack of domestic service lay in the labor-saving device. But what is a labor-saving device? It is that device which performs a certain labor or work as well as it has been done, yet with a saving of time, money or energy. A good washing machine is a labor-saving device. As yet there is no dish-washing machine which can fitly be called that, although there is one we have found which approximates it. For a labor-saving device does not, from our standpoint, mean merely a machine that will accomplish a certain task. It must perform it with a definite standard of result. The advantages and disadvantages of any device should be thoroughly understood and weighed before reaching a decision. For no teacher of Home Economics should be willing or permit herself, ignorantly or willfully, to countenance what may be called short-cut methods, by which is meant a method saving time or energy, but producing in consequence a less perfect result. Used in the proper way, fireless cookers are labor-saving devices, but too many women use them improperly. Vacuum cleaners are labor-saving devices of great value because their use means sanitary results. But we find that nearly all people need to be taught how and where to use them. And of the making of vacuum cleaners there is no end.

How should we judge a good vacuum cleaner? Can one be purchased for $6? Take these questions back to your normal classes

and realize that the time has come for us to know about these things. It is our business to know. Mere hearsay evidence is not enough. Tuesday night Mrs. Richards said, "We simply accept what people say to us," and this is painfully true in the buying of household devices largely because the woman has not been sufficiently trained in mechanics and mechanism to have the factors at hand which make up judgment or choice. We have to know if we are to teach or show, by example or otherwise, how to expend the school or private funds so that the result may be economic.

The questions which come to us daily are of this character: How much does it cost? Given four loaves of bread, what is the comparative cost of baking these by electricity at 10 cents per kilowatt hour, gas at 80 cents per thousand feet, oil at 15 cents per gallon, alcohol at 25 cents per quart, or coal at $8 per ton? And the cost cannot be reckoned in consumption of fuel alone, but has to be judged somewhat by the result. You cannot judge of the propriety or efficiency of a fireless cooker until you have cooked similar cuts of meat or materials in the casserole, in the oven, in self-basting roasting pans, by coal, by gas, by electricity and measured all cost, losses in time, fuel, energy, and waste in material and then compared the results. Then and then only can you judge how to reply to the woman who comes to you in distress and says, "Shall I expend these few hard-saved dollars for a fireless cooker?"

Housekeeping is the largest single industry known, yet the purchasers of its tools have been at the mercy of the specious advertiser; the administrator of its economics knows little or nothing of actual values in household materials and foods. Her work all ends in social efficiency or deficiency.

A CO-OPERATIVE LAUNDRY.

The *Northwestern Agriculturist* describes the plan for a coöperative laundry which, it would seem, should be adopted. If it fails to appeal to the housewife in that region it would be interesting to know on what grounds.

In Minnesota there are over a thousand creameries and cheese factories, most of them owned by the farmers on the coöperative plan. They are supplied with boilers and power plants which are in use only from two to four hours a day. It is proposed to utilize this plant during its idle hours for the laundry work of these families.

The editor of the *Agriculturist* consulted with the editor of the *National Laundry Journal* and the following estimates were made; A large washer with compartments so that the clothes of each family could be put into a compartment and not have to be marked would not exceed $200 to $300. One engineer could take care of one such machine and a centrifugal wringer for 100 families.

Another estimate from a company making laundry machinery required $575 for machinery and all connections. About $300 would build the one room necessary for this machinery, making $900 or an investment of $9.00 a family. The estimate for labor, (the engineer and two women), fuel, soap, etc.—was 29 cents per family per week, exactly the sum which at a conservative estimate must be paid out in each family weekly for fuel and soap alone. This means that the labor of washing would be in these homes absolutely without reward. The same teams that haul the milk and cream were supposed to haul the clothes which were to be delivered mangled and rough-dry.

THE IDEAL HOUSEKEEPING IN THE TWENTIETH CENTURY: FUNDAMENTAL PRINCIPLES FOR HEALTH AND ECONOMY.

ELLEN H. RICHARDS.

First the house—dry as to the cellar and walls, easily aired, the windows going to the ceiling and opening at the top with ease; sky lights, or other roof ventilation.

Because bad air is hotter air, and hotter air rises as does a cloud of steam.

Floors without cracks, joining the walls smoothly. Walls washable, except in rarely used rooms. Woodwork without rough surfaces (no jig-saw carving to hold dust). Stair rails and supports round and smooth. No dark cupboards. Each bedroom with at least two windows on two sides. No room can be well aired without a "draft."

Plenty of hot water with the simplest, but perfect, plumbing.

Arrangement.—Such as to require the fewest steps for the work to be done and very little *noise* in the doing; serving rooms and dish-washing sink not noticeable in the dining room.

Large sinks with two compartments for dish washing and racks for drying without wiping.

Installation of a vacuum cleaner indispensable.

No gas burners without hoods or flues with a strong upward draught.

No toilet room without an outside window and a separate vent flue.

The kitchen aired from the top, so that odors from cooking may not become stale.

The sink out from the wall; no un-get-atable spaces.

Screens in the upper half of all windows to keep out flies.

If a modern bathtub, it should be set away from the wall. A shower bath is preferable.

Shades should be raised from the bottom, not lowered from top of window, or both. No heavy draperies over the top of the windows. Good color and right lines in all furnishings.

(See The House, Bevier, Vol. I, Library of Home Economics, Am. School of Home Economics, Chicago).

Care of the House.—Bed-rooms, clean and again clean; wiped, not swept.

Crockery to be washed at the housemaid's closet daily in hot soapsuds. Rinsing of the waste jars is not enough.

Stairs wiped, not swept. Heavy dust falls below as well as light dust rises.

The feather duster abolished; dampened or dustless dusters always used, also dry mops (Turk's heads) or broom cloths.

The dining room free from odors of yesterday's dinner; cool, quiet; cloths clean and smooth. Dishes without streaks or finger marks.

Hot food hot, and cold food cold; each dish well flavored, but not spiced to cover lacks. Quick, noiseless service covers a lack of frills.

A study of dishes, that the dissimilar may harmonize, and complete each other.

All this costs time, money and thought, but is held to be essential to right living if the best result is to be obtained from the individual brain worker.

A CANADIAN EXPERIMENT IN HOUSEHOLD SERVICE.

A Canadian woman writes as follows:

I think that perhaps you may be interested in an experiment in housework I am trying. I have a maid engaged for seven months for 60 hours a week at the current factory wages here, $5.00 a week. She sleeps and eats at home, just three doors away from me. Her hours are from 7 to 12, 1 to 3 and 5 to 8 except Saturdays, when she finishes at 3 o'clock and gives me the 3 hours on Sunday to complete the 60 hours. Her time is mine, and I can ask any legitimate service from her. She does the washing and ironing. I would have to pay an ordinary girl $12 a month, and could not feed her under $7 a month. I rented the room she would occupy to a lady student for $6 and count I am paying really at least $7 a month less for her service, as I could not get an ordinary maid to do the washing so that would add $2.00 for a woman in the house four half days a month. I am very fortunate in having this maid. She used to go out by the day, but when I offered her the $5 a week she accepted.

COOKERY AT HIGH ALTITUDES.

As everyone knows, the temperature at which a liquid boils is dependent upon barometric pressure. The higher the altitude the less is the barometric pressure and consequently the lower the boiling point. At sea level, with a barometric pressure of 30 in. of mercury, the boiling point of water is 212° F., and in round numbers, this boiling point is lowered 1° F. for each 550 ft. of ascent above sea level. This means that in high mountain regions boiling water is not so hot as boiling water at sea level, and that if the usual results are to be obtained, changes must be made in cooking processes like boiling or stewing, and in the ordinary baking processes which of course depend in large measure upon the conversion into steam of part of the water used in mixing the dough.

The fact that liquids boil at a lower temperature at diminished barometric pressure is taken advantage of in many food processes; for instance, in the evaporation of milk or of sugar sirup, such processes being carried on in specially constructed evaporating pans in which a partial vacuum is maintained. By such a process the danger of scorching or burning is diminished.

Applying heat at a barometric pressure higher than normal is not a common process in household cookery, though it is one of the very common laboratory processes, the object being attained by heating a substance or substances in an air-tight container constructed in such a way that it will withstand pressure, a necessary precaution, or otherwise the receptacle would burst as would a tightly closed can if one tried to boil water in it. Heating under pressure is practiced in canning on a commercial scale, when foods are heated to temperatures much above the boiling point of water in order to insure sterilization. It has been suggested that one of the advantages of cookery in utensils with closely fitting covers is due to a slightly increased atmospheric pressure. In such cases, of course, there is no danger of the bursting of the container under the pressure of the steam generated, as the cover is not tightly fastened.

Perhaps as a general rule it may be said that cooking is chiefly dependent upon two factors, namely, the degree of heat applied and the

time the cooking process is continued. The lower the temperature the longer the cooking period which is required to achieve a definite result. It is apparent therefore that when a food is boiled at a high altitude the boiling must be continued for a longer time than at an altitude where water boils at 212° and a long period of soaking may be required also to soften hard food before cooking it. It is well known that in ordinary altitudes an egg may be cooked to any desired degree in water which is at a lower temperature than 212° but a longer time is required. That other cooking processes continued at temperatures lower than 212° will give satisfactory results is evident from the success which attends cooking in a hay box or fireless cooker, in which case materials as near the boiling point as possible are enclosed and kept for a long time in a receptacle with walls so insulated that heat is conducted away only very slowly. At high altitudes, then, an important consideration is the length of time the cooking period is continued.

The question of cookery at high altitudes has been discussed in one of the earlier publications of the United States Weather Bureau,[1] on the basis of data included in a cook book published in Albuquerque, New Mexico, which embodies the experience of its writers in meeting such problems. A collection of recipes for cookery at high altitudes was published by Caroline T. Norton[2] as a result of her experience in housekeeping in Colorado. Mrs. A. Anderson has also written on the question, from the standpoint of experience, in a recent magazine.[3] Doubtless other volumes and papers dealing with the subject have also appeared.

The result of experience seems to be that in cake making at high altitudes fewer eggs, less shortening, and less sugar are required than under ordinary conditions. Less than the usual proportion of soda to cream of tartar is also said to be needed.

In a handbook on bread and bread making, Paul Richards[4] discusses the effect of altitude on baking mixtures on the basis of his own experience. Though discussed from the baker's standpoint rather than

[1]Effects of Diminished Pressure on Cooking (U. S. Dept. Agr., Weather Bur., *Mo. Weather Rev.*, 28 (1900), No. 4, p. 141).

[2]The Rocky Mountain Cook Book, by Caroline T. Norton (Denver, Colo.: W. F. Robinson Co.)

[3]*Boston Cooking School Mag.*, 14 (1910) No. 8, p. 372.

[4]*Bakers' Bread*, by Paul Richards. Chicago: The Bakers' Helper Co., p. 15.

from the housekeeper's standpoint, his conclusions are of interest to the housewife.

He writes:

It is always a puzzle to bakers, used to work in lower altitudes, that some of the general recipes do not work as usual, and even the yeast works more vigorously in the doughs and sponges when they get out West in the higher altitudes of Colorado and other mountain states. I had some experience of this at the time I worked in Denver, but this difference is still more pronounced in the more elevated cities of Leadville and Cripple Creek. Bread and rolls "prove" more rapidly and require less yeast (or a weaker grade of yeast), but this can easily be regulated. The greatest difficulty is with the cake mixtures. The ordinary mixture will rise and fall during baking as if there was too much baking powder in it, and the rich grades of cakes were the most difficult to bake. I had a man with me who had been there for some years, and through him I learned to overcome this difficulty.

In comparing our recipes I found less sugar was used in all of them and in some more flour, also less baking powder and ammonia. In rich mixtures like pound-cake, wine-cake, and other loaf-cakes, it amounted to from three to four ounces to the pound of sugar less, and in the layer-cake mixtures (also for jelly-roll) it was about two ounces less. The amount of baking powder is about half, and in some mixtures one-third less than is required in the eastern mixtures; the same also with ammonia. Lady-finger mixtures and also angel cake and sunshine cake stand more flour, about two ounces more to the pound of flour than is given in ordinary mixtures.

It would seem that still higher altitudes would require still less leavening agents, and also less shortening and sugar.

THE ASSOCIATION MEETING AT THE WEDNESDAY CLUB OF ST. LOUIS.

The meeting of the American Home Economics Association held Tuesday, December 27, at the rooms of the Wednesday Club in St. Louis was most interesting, but our space does not allow of a full report.

After greetings by the presiding officer of the club, Mrs. Ernest R. Kroeger, Mrs. Richards called on Dr. C. F. Langworthy of the United States Department of Agriculture, who spoke on the help which the Department of Agriculture offers the people in the matter of nutrition, such as by the twenty-one free Farmers' Bulletins, millions of which have been distributed and also by means of correspondence which is constantly growing and which brings it in more direct contact with the people than any other department except the post office. Hundreds of thousands of people, club women, housekeepers, teachers, and those in every line of work turn to the Department with questions, and an attempt to answer these questions is always made. It has been called a true peoples' correspondence school. Dr. Langworthy also spoke of the original work done by the Department to determine food values as with the respiration calorimeter on the digestibility of cheese, the results putting it among the most wholesome foods to be used in quantities without harmful results.

Mrs. Walter McNab Miller, who is a member of the Governor's Council for the State of Missouri, said that the club women represented a great body of volunteers who were helping to translate scientific knowledge into every day terms and carry it into every household. She rehearsed the part played by the club women in the passage of the Pure Food Bill when there was danger of its being held indefinitely in committee.

Mrs. Miller then told in detail, as follows, of the work of the Missouri Women for sanitary provisions and a new law which will require the manufacturer to place the net weight of the contents on each package.

Last week I made a few notes of an order of groceries that I made. I ordered a peck of apples at $2 a bushel, which according to the law of Missouri should have weighed 12 lbs.; I got 9 lbs. in weight, my loss being 25 per cent. I ordered a half bushel of potatoes at 90 cents; instead of getting 30 lbs. as the law required, I re-

ceived only 25 lbs., so my loss was 16⅔ per cent. I ordered 2 lbs. of butter at 50 cents and received 1 lb. 12 oz., a loss here of 12½ per cent; 40 lbs of ice at 20 cents, and received 30 lbs., a loss of 25 per cent. I bought a cake (not from the grocer, however) supposed to be 5 lbs. at 50 cents; I got 4½ lbs., a 10 per cent loss. The total loss on this bill of goods was 18 per cent on a total of $4.15, or 75 cents.

We are trying now to get a law through the next legislature compelling people to put the net weight on their packages. Take the item of bacon, for instance: When we remove the canvas covering, which is often weighted, and then the heavy wrapping paper, we are much amazed at the small size of the piece of meat, and with bacon at 30 cents a pound as at present, we realize what the loss is to the average family. Even for those who do not feel this loss I believe that paying for something that we do not get is almost as bad as paying nothing for what we get; it is almost as wrong and I might say "unmoral," if not immoral. I think that we who have the intelligence to do so and the education should, for the sake of the poor people, stand together and see that such a law is passed.

Two weeks ago in Kansas City, at two of the good lunch counters, that is, where everything looks spotlessly clean and where everything is kept as daintily as can be, a gentleman did not believe that the milk was very good, and so sent an inspector to get samples and analyze the milk. One sample was found to contain in excess of 7,200,000 bacteria to the cubic centimeter and the other 34,775,000, whereas the maximum amount allowed by law is 500,000.

These are a few examples of the great need there is for intelligent knowledge and honest food, and of the necessary legislation to bring it about.

Miss Isabel Bevier of the University of Illinois, who gave the next talk, held that the time had come "when neither the home nor the school can be what they ought to be in the world, until the women, whether in the school or in the home, work together."

The average idea of "Home Economics" to use an old phrase, may be divided into three parts: The girls' desire for a smattering of cooking, the small boy's notion that it is something that don't cost much and has no taste, and the parent's thought that "there is something in it." This last I am cultivating, and I think there is a reason for it. If you had watched for years the interest and the enthusiasm with which women in the University of Illinois follow the work, you would believe with all your heart that "there is something in it."

I am sorry for the girls of today because it is the custom to say that "the industries have years ago gone from the home." Of course some industries did go from the home, but lessons in just simple, honest work, in patience and perseverance, in trying at something until you are thoroughly familiar with it, in the entire family working together for a common end in joy and comradeship, have not gone.

But in the average home of today, the daughter is very busy in school, she has no time for work in the home, she knows little about the housekeeping processes. I do not mean the making of butter and candles, but more simple processes such as making a bed and straightening a room. What happens to this work? Oh, the maid does that! The laundry disappears down the chute, she does not know where, whether to the basement or the laundry! She knows that it comes back washed and

ironed, she knows how clean clothes ought to look when well ironed, knows how the dining room linen ought to look, but she does not know how to dust a chair, spread a table or sweep a room. And is there any wonder that the time comes when she suddenly realizes that this business of housekeeping is something other than making fudge in a chafing dish?

But this matter of housekeeping is a real business, and while some of the industries have been taken out of the home and while there are all sorts of institutional homes proposed, so long as we still have the ordinary homes, somebody will have to do the work, and supply the needs of the family. The study of Home Economics will show that much of what we are now pleased to call the drudgery may be borne by the family and that part of it will not be necessary, if we know well how to do it. We learn that a thing one can really do well loses its terror and then one is able to control the circumstances under which the work is to be done.

And so I plead that after one is taught to do a certain thing in the school, she should be allowed to practice it in the home, and be given an opportunity to work along the lines she understands. And when Household Economics and the home mean one and the same thing, there will come back into the home much of the home spirit, much of the benefit which came from the industries which were formerly carried on in the home.

But if the girl is made to feel that she is doing only the work of the maid, she is not going to put her best energies into the work. If she discovers that her mother delegates everything of this kind to her, it loses its beauty and charm and becomes ordinary because she does not see the others practicing it.

We need to change our attitude toward Home Economics and apply some of its principles to ourselves. It has ever been our idea to take care of the poor, and have them learn all of the lessons of diligence, thrift and economy. I heard one woman say, "Economy! economy! I loathe the word!" But when told that the word itself meant "wise expenditure" she accepted it in a gentler spirit.

Not long ago I overheard a conversation which I believe is fairly typical. Two mothers met. One, in asking the other about her family, said: "How are the daughters?"

"All well."

"Are they married?"

"No."

"What's Mary doing?"

"Mary is in the dressmaking trade, getting along real well; they've made so many suits and dresses this season."

"What is Sarah working at?"

"Oh, Sarah's teaching school, she is getting along well too, she enjoys the children so much."

"And what does Martha do?"

"Oh, she's just keeping house."

And is it any wonder that our girls have a disdain for the home work?

If the truth were told, we would say Mary is working hard making a little pin money, Sarah is teaching and about making her living, but Martha is really the competent and important member of the family, for she is running the whole thing.

Miss Josephine T. Berry talked on sanitation, in part as follows:

I want to say that I feel we are gathered together here, representing two very closely related lines of work; the women's clubs and the Home Economics organizations, that both branches are hard at work, and that our work really consists in two phases of a world movement which is a better recognition of the worth and responsibility of the individual to society and the benefits of society to the individual. The idea is not a new one. The Greeks had it. It has always existed, but it is to the glory of our name that we are endeavoring to emphasize it in our national principles.

These two organized movements for the betterment of home and living conditions have a definite work and exert a wide influence. The club movement is older than ours, your numbers are far greater, your influence today is greater and you have made it felt,—"the woman's influence in the woman's sphere."

It seems most fitting that I should endeavor to draw your attention to two departments of our work in which it seems to me your interest, your work, and your influence can be of enormous service.

The first is the subject of sanitation, that is, looking after public and private health, or you may call it hygiene. The time has come when there is a definite need that the young people of our land become convinced of the necessity of the observance of rules, and of a fuller understanding of the rules of sanitation, and that they need to this end a careful scientific training. I ask your help, therefore, in placing courses of sanitation, public and personal hygiene in our schools, both grammar and high. You have given us your aid in getting domestic science and art courses into the schools, so that we are properly equipped to teach these branches; by that I mean we are giving courses of instruction including recitations, lectures and laboratory work. Then why not give to the young men and women in our high schools a proper understanding of bacteriology under scientific methods and demonstrations and all of that information which gives us control of the enjoyments of life and makes us thoroughly familiar with the rules governing health? Why not teach the importance to the householder of the convenience, power, and authority which comes not only from the just and honest label, but the ability to detect impure milk, adulterated food and textiles?

Then there is another field, quite different from this, in which you can help us in our work of Home Economics, and that is by giving us reliable statistical material, of which there is very little available today. That is, the government has not investigated into the cost of living and the apportionment for the average family. Statistics have been gathered for people living below what seems to be the existence level, the efficiency level, those who are charges on society; we know something about what those people spend, what they earn, and what we have to spend upon them. But we know almost nothing about the apportionment of income among the people who live upon salaries say of from $1500 to $5000 per year. We do not know much about what it takes to pay rent, how the income is earned, the cost for clothing, for service, out of a certain income and what under

good management may be expected; how much may be spent for recreation and how much for gifts and for other things.

Among the American women today there are many good managers who keep accurate household accounts, and if some of these women for the good of all would be willing to classify these accounts into a few groups, such as income and its sources, the amount expended for food, clothing, service, and education, they would be of immense value to those of us who are working along this line and would assist us in preparing the statistics for the courses which we have in view, in setting up standards for the young women, and in teaching them something of the relation of value to expenditure. I for one have been in search of more information along this line and I am sure that it is in the hands of the members of the Women's Clubs, and that this is one of the ways that you may help in the instruction of the young to the end that we may have better sanitation.

Miss Nellie Crooks of the Milwaukee-Downer College spoke as follows on Textiles:

In speaking of "honest clothing" we mean clothing which is as represented. But in this country there is no law to prevent a manufacturer putting any kind of a label on any kind of textile; in other words, there is no pure textile law, corresponding to the Pure Food Law. If they wish to manufacture "woolen goods" by making them half cotton and selling them for "all wool" they can do so. To be sure there is a process of law to reach such a manufacturer but it is such a cumbersome thing to prove and there are so many details connected with it that it is seldom attempted.

It will perhaps be interesting if I show you a few of the results of my work in the chemistry department at the Milwaukee-Downer College.

In the first place, there seems to be no standard of value in what may be called the good, second-class stores of our cities. We find that in the army and navy there are such standards of values to which the materials must conform. The wool and the linen must be as specified in the requisitions that are made to the manufacturer by the quartermaster, and when the materials are turned over to the army or navy they are very carefully inspected and those found wanting are returned to the manufacturer. If we could only have some such methods in vogue in our department and dry goods stores, we would be able to expend our money much more advisedly.

It is said that women spend much more money on dress than do men. This is accounted for in a measure by the fact that they throw aside their clothing quickly on account of the passing styles. But another important factor is that women's and children's clothing, especially the outer garments, are made of a poorer quality and do not wear so long. Those who have to live on moderate incomes are especially affected by this feature and are compelled to spend a greater proportion of their income for dress than was required a few years ago. In gathering statistics from railroad men's families, we found from the wives of switchmen that one of the items which went to make up this increase in the cost of living was the fact that clothing bought for the children did not wear so well as it formerly did.

Then the clothing bought for one child was handed down to another, but now it wears out and is practically only used for the one child for which it was bought. You can see that makes the expense for clothing of the family much greater.

I will now take up some of the specimens we have here; this is a linen handkerchief—a bargain such as we women are ever fond of. I went to one of the best second-class stores in New York and bought a dozen of these handkerchiefs. There was a large label on each one "warranted all linen;" the handkerchiefs were in a package and on the package was printed "warranted all linen." And then, to be more thoroughly convinced, I asked the girl behind the counter, "Are these handkerchiefs all linen?" and she assured me that they were. They were sold to me at 55 cents a dozen and I remember at the time I commented on the price, for you know that is a remarkable value for the money! Upon making the test, I found that there is not one thread of linen in them. To be sure that I was not deceived in any way, I tested them in different ways, by the test of chemicals and by the microscope.

This is another specimen of handkerchief. A young stenographer brought it to me and showed me the label "warranted pure linen." She said she had purchased it for five cents, and advised me to buy some of them. This is a different class of handkerchief that we get for pure linen: It has two threads one way of linen and two threads of cotton; it is a very pretty handkerchief but the threads are woven two and two; it makes a pretty fabric and wears fairly well.

Then we come to table linen, which is made of a cheaper variety of linen. In this we often find cotton in the flowers. I have some of this that has been used for a number of years; the ground work is still good, but the flowers have given way. In towels we have the same effect; I have one nearly all cotton; and another with 25 per cent residue of linen.

When I was lecturing at the University of Wisconsin last year I was shown a waist that the teacher had worn a few times and then had washed. This waist was of heavy linen and linen is supposed to shrink very little when washed, yet this was reduced from woman's size to a size for a very small child. Upon looking at it through the microscope, I found that it was linen which had not been properly cleaned and treated, almost in the rough fiber, and therefore it had shrunk when washed.

Then we come to silk, which has always been looked upon as somewhat of a luxury and not a necessity, but which in these days of silk linings and thin silk waists for summer wear seems very necessary. Here is a piece of silk I bought at 59 cents a yard and it really looks very nice. It was not only warranted "all silk," but the clerk became very indignant when questioned about it. Upon testing it, I found that it contained 71 per cent of weighted material. That is to say, when it was sent to the dyer to be dyed, it was part of his business to bring that silk up to a certain thickness and weight and for this purpose he in this instance used 71 per cent of bi-chloride of tin. As you know, raw silk is very expensive and the weighting makes the silk go further in the weaving.

I also have a piece of a $1.75 Bengaline, which contained only 17 per cent

of weighting: a piece of silk bought in one of the best stores in New York at $1.00 per yard which was indignantly warranted by the salesman, but which I found contained 38 per cent of foreign matter; and a piece of silk from a waist of one of the teachers in Teachers College, which after she had worn a very few times simply dropped to pieces. We found that this last sample contained about 25 per cent of silk and also that it was loosely woven in places, which together with the weighting caused it to wear out quickly. Then there is an artificial silk which is made of cotton and used a great deal for dress trimmings. This is a very good material; it is difficult to tell that it is artificial silk and it really wears very well in passementerie and dress trimmings.

We now come to the wool question, which is more vital to the subject of Home Economics, as wool is certainly a necessity of life, because we need its warmth. For people who are ill, consumptives, and delicate people, nothing will take the place of wool.

I have here a blanket which was warranted on the blanket and by the man who sold it to be all wool. We washed a sample of it in caustic and found it contained exactly 11 per cent of wool, the remainder being cotton. In order to be more sure this testing was absolutely accurate, we used a magnifying glass and had photographs taken of the fibers with the 200 magnification, which verified the analysis. As you know cotton is heavy but you never can make it warm, as it is anything but warm material.

Question from the Floor:—May I ask if any attempt was made to have the shopkeeper make good his warrant, after these tests were made?

Miss Crooks:—The warrant is simply the manufacturer's statement that the thing is as it is represented to be. In order to get anything back, you have to prove that you have suffered positive damage yourself, and that is a very difficult thing to do. Of course, we hope to have a law passed that will alter this situation and that is one reason why we are presenting the facts. The people must be roused to the necessity for having such a law passed.

This is a red dress material which I brought for 75 cents a yard, 42 inches wide. I really did think that I was getting all wool. I may say that there are quite a number of ways to test these materials in the store. When you have once felt of good material, it is something I think that you never forget. Thus for linen, if you hold the goods in your hand and dampen it and if the moisture shows through quickly, you may know that it is linen. This goods I bought in not perhaps the best store of the city but a store with a good reputation and appearance, and a store catering to the poorer people. Upon testing it, however, I found that the whole background of the material was cotton with just an outside or weft of wool and cotton together, the wool being laid on.

But when you consider that the test of a good teacher in a textile school is the ability to cover up the cotton so that it does not show, you can hardly blame the manufacturer. Indeed I agree with many manufacturers that it is largely the demand of the consumer that forces them to put out so much shoddy material. One of the large wool manufacturers in the middle west told me he sent his agent out with two samples, one of

absolutely pure woolen goods which should retail at about $1.25 per yard and another similar sample of shoddy at 90 cents per yard. The salesman came back to the factory with orders for 5,000 yards of the 90-cent material and orders for only few hundred yards of the better material. So, if there is a demand for the shoddy goods and he can sell them, can we blame him for giving the people what they demand ? But should not the people of this country be taught the difference?

Mrs. Kroeger:—I would like to ask Miss Crooks if, when we go to our higher class stores and pay $1.50, $2.00 and $3.00 per yard for materials, the guarantee of these stores is not sufficient?

Miss Crooks:—I believe that when you go to the higher class stores and pay those prices that you do get exactly what you are paying for. But it is the poorer people, to whom the wool and the wearing quality mean so much, who should understand that the purchase of this class of goods is not economy.

Here is a piece of 29-cent material I tested. We will make an experiment with this little alcohol stove, boiling the goods in a solution of chloride of potash in which the wool will become soluble like sugar in water.

(The experiment was made and revealed a network or cross bar of cotton.)

Miss Florence Corbett then spoke briefly on Home Economics and the Institution.

The President (Mrs. Richards):—I think there is very little for me to add, the other speakers of the evening have so fully indicated to us what a happy world this will be "When Women's Work is Ordered by Science." We know that when we shall have been educated up to a certain appreciation of science, we shall not be so gullible.

In order to bring about this better condition of things we will all have to work just as we did to get the pure food bill passed; it is work that is expected of us and it is work that women can do. Women have feared a reputation of being critical buyers, but this is only a tradition and we have gone to the other extreme and are spendthrifts.

I believe that in each grammar school we should exhibit specimens of articles of food and wearing apparel, both adulterated and pure, that the pupils could see and handle them, thereby enabling them to detect adulterations and know the genuine, and that in our high schools we should maintain laboratories where tests may be made. I believe that from this and from recitations and lectures in our schools we will evolve a nation of critical buyers who will create a demand for the genuine and the best. As woman's chief object in life seems often to be to spend money, she cannot do better than learn to be a wise spender and a critical buyer, and I think that is the best word I can leave with you from our program.

A LETTER OF INFORMATION FOR WOMEN'S CLUBS.

The American Home Economics Association dates back to the National Household Economic Association, an organization formed by club women at the time of the Women's Congress at the Chicago Exposition. This organization, as a separate society, worked for a number of years through the women's clubs in securing the introduction of manual training and domestic science for girls in the public schools. After ten years the work of this association was merged with that of the Committee of Household Economics of the General Federation of Women's Clubs. Meanwhile, in 1899 the same interest which produced the National Household Economic Association caused the establishment of the Lake Placid Conference on Home Economics, and this conference met annually for ten years, from 1899 to 1908, bringing together economists, sociologists, and settlement workers, as well as college and public school teachers of Home Economics with whom, from the first, met representatives of the women's clubs interests. This conference, essentially a gathering of leaders, was followed in 1908 by the American Home Economics Association, a nation-wide organization now numbering more than 1300 members.

This organization began at once to publish a bi-monthly magazine, the JOURNAL OF HOME ECONOMICS, which was sent to members who paid the annual dues ($2). Its first volume numbered 500 pages and contained upwards of 60 articles of importance on Home Economics topics. The second volume contained 700 pages with a still longer contribution of original articles that appeal to the teacher, the house-wife, the social service worker. With the year 1911, in order to meet the requirements of the Post Office Department, subscription to the JOURNAL ($2.00) has been separated from membership in the Association (25 cents).

This organization should appeal to those members of women's clubs who are especially interested in work for the welfare of the home. Many such individuals are already members of the Association, and in some instances a single person stands as a representative of a local club receiving the JOURNAL and passing on its suggestions to the local membership.

The JOURNAL OF HOME ECONOMICS has been found of assistance in local club work in several distinct ways. It furnishes suggestions for program making. The articles appearing in the JOURNAL often may be summarized into papers for presentation before local clubs. More often they will suggest topics for club consideration. In some cases, clubs will be able to undertake local campaigns for the introduction of domestic science into schools, for the improvement of markets, and other reforms will be greatly asisted by the material presented in the JOURNAL. One local club, for example, has organized conferences in connection with the board of health which have had beneficial results.

The securing of lecturers is another matter in which the information supplied in the JOURNAL will be of assistance. The teachers in colleges and universities who are conducting courses in Home Economics are frequently willing to make addresses before organizations, and the JOURNAL OF HOME ECONOMICS furnishes an oppor-

tunity to come into relation with them. Housewives who are attempting to conduct their home work in line with modern progress, and their number is constantly increasing, will find the articles in the JOURNAL of very direct value to them in their homes. Without suggesting that the members of women's clubs should generally become members of the American Home Economics Association, since the calls to membership in different societies are so numerous, one would not hesitate to recommend most strongly that each local organization become connected through some representative.

A SUGGESTIVE OUTLINE FOR CLUB STUDY IN THE HOME ECONOMICS SECTION OF WOMEN'S CLUBS FOR 1911-12.

GENERAL TOPIC: HOME ECONOMICS AND THE COST OF LIVING.

PART I. THE DECORATIVE ARTS.

(1) *The Decorative Arts.*—The earliest striving of the human mind for expressions of variety, power and worship.

Primitive woman and her work—basketry, pottery, etc., personal tattooing, beads and feathers, early wall decoration, carving.

(2) *Present day decoration.* Its inner meaning. The difference between conditions in the wigwam, the sod hut, and the modern house, the fireplace and the steam radiator. The modern purpose in decoration.

(3) *Pseudo Art.* Using the house for collection or museum purposes (usually a waste of money). Modern people often fail to apply the principles of beauty to *usable* things, Eastern cooking utensils, Pompeian lamps, etc., are hung in the modern house where these ugly things are in daily use. How may we remedy this?

(4) *Decoration in every-day life.* Principles to be followed: (a) Beauty of form or color; (b) cleanness, real and suggested; (c) purpose, serving that for which it was designed; (d) giving satisfaction, a stimulus not a drag; and (e) promoting efficient living.

(5) *Household purchases.* All should be tested by these principles.

(6) In the Division of the Income what is the relative expense to allow for decoration? This involves "the economics of purchase," the deceptions encountered, means for self protection *e.g.*, classes in wise buying or the support of an expert advisor to be sure of receiving value for money expended, and the time and strength given to the subject and to the care of articles.

PART II. THE RENOVATING ARTS. THE ONLY ARTS LEFT IN THE HOUSE.

(1) Daily care—sweeping, dusting, etc.
(2) Repairs—textiles, furniture, appliances.
(3) Human repair, food preparation, etc., kind and quantities.
(The serving of food is a decorative art and should be treated as such).
(4) The laundry and cleansing of used materials.

PART III. THE RECREATIVE ARTS.

The household is losing its art of recreation. Each member of the family goes outside for pleasure (this is the most serious ethical loss, due partly to few children, partly to the loss of manufacturing interests in the house.

(1) Fundamental points in household recreation.

It should be active not passive. We soon tire of a museum. Conscious use of power, therefore allows members of the family *to do*.

(2) *Choice* is man's highest attribute. Perhaps then, he must be given a basis of *choice of occupation, which is recreation*.

(3) Control is a pleasure. The secret of successful household management lies in a sense of *control* of the various forces.

The cost of living is due to a state of mind more that to a state of purse.

SINGLE TOPICS FOR GENERAL CLUB DISCUSSIONS.

(1) The house as a work-shop: Mechanism distrusted by women.
(2) The house as a museum: Decoration beloved of women.
(3) The house as a restaurant: The feeding of the family a worry.
(4) The house as a repair-shop: Renovation of materials and persons.
(5) The house as a recreation centre: Renovation of people.
(6) The balance sheet { money / time / strength } results in { health / ability / purpose } accomplished

Success in business means a surplus at the end. What is the housekeeper's balance?

What is the ratio of expenditure to result?

Does the twentieth century housekeeper see clearly the result to be desired? Is not the fact that she does not the modern trouble?

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EDITORIALS.

The New Gospel of Efficiency.

Seldom, indeed, have the hearings that take place before the Interstate Commerce Commission been read with such interest by the general public as were those of the late autumn when certain railways sought permission of that body to raise their freight rates. This request was actively opposed by the large shipping interests of the eastern seaboard who through their counsel, Mr. Louis F. Brandeis, called as witnesses men who are specialists in what is now known as Scientific Shop Management, in order that they might testify to the methods that have been developed in the last thirty years by certain manufacturing concerns whereby they have increased their output and profits while at the same time advancing the wages of their workmen. These men further testified that the railroads of the country had not adopted these methods and that to allow an advance of freight rates in order to cover a deficit which might be avoided if "scientific management" was put into practice was to impose an unjust burden on the public. It was also shown that where the new methods had been applied in part to the Santa Fe repair shops the result had been a net saving in three years of over five million dollars. And it was largely due to such convincing testimony from Mr. Dodge and Mr. Towne of The American Society of Mechanical Engineers, Mr. Going, Managing Editor of the *Engineering Magazine*, Mr. Gantt and Mr. Harrington Emerson, experts in Scientific Management, that in its final decision reached late in February the Commission refused to allow the railroads to advance their rates and recommended to them a use of the methods to which competition had forced the business man.

"Efficiency" became the subject of magazine articles and editorials. The wonder tale has been told and retold to a public that had not realized what was going on under its eyes. Every employer of labor has asked, "May I, too, double or treble the results of the day's work?" If one hundred and forty laborers in the Bethlehem steel works could be brought to do the work of a former force of six hundred; if the man who laid one hundred and twenty bricks in an hour could by the new methods lay three hundred and fifty; if in one establishment seventy-

five men and twenty "teachers" have replaced one hundred men and five foremen and multiplied the output by two and a half, to what may this magical method not be applied? Why sigh for the fountain of youth if by doubling our power we may double our effective years?

We must next inquire, what are the principles that underlie these new methods and can they be applied to the processes of daily life known to us as housekeeping? It may be said that to prevent waste of effort and to make use of appliances that save time and strength has always been the aim of the intelligent worker. Why is one farmer's wife sitting at ease on her front porch at three in the afternoon, all her work well done, while another with no heavier tasks toils far into the night? Why does one boy fasten his basket to his belt, and pick with both hands and return with twice as many berries as another boy? New England people called it "faculty" and no better name could be used, a faculty for eliminating needless motions and seeing the end from the beginning.

However what separates the new "Scientific Management" from the old methods by a sharp dividing line which all must recognize is the application of the true laboratory method. Each complex question is separated into its parts and then each part is studied by itself with the help of all known sciences.

Mr. F. W. Taylor seems to have been the first to apply extensively to shop problems the idea that men must be studied as well as machines in order to eliminate the present waste of force as translated into motion, and when two laborers were given over to him "to do any fool thing you're asked and play square" he had them carry a given weight a given distance, then rest a certain time. With changes in weights and distances and rests, this went on for weeks and months, the results being taken down with the exactness of a hospital "protocol." When these results were summed up and found to lead nowhere, the zeal of the true investigator prompted their repetition and with the help of the physiologist to determine the rest necessary to eliminate the effects of fatigue a formula was evolved that enables the man who had loaded eleven and a half tons of pig iron in a day to load with no greater fatigue forty-seven tons! A result possible largely because he had not raised and lowered his own body unduly for hundreds of times. Only by such methods can rules be worked out by the few for the use of the many.

Without doubt these studies of physical motion will be applied to all forms of labor. In the case of the bricklayer the fifteen separate

motions formerly necessary in laying a brick were reduced to six. Why should not washing, scrubbing, dish-washing be studied in like manner? The proper height of tables, benches and tubs will then be according to a fixed law and not arbitrary. To quote Miss Johnson in the present issue of the JOURNAL, "Housekeeping is the largest single industry known, yet the purchasers of its tools have been at the mercy of the specious advertiser." Its processes need study by experts, in order, first, to reduce them to their separate parts that each may be studied according to the scientific method. Is it cheaper to do the laundry in the home or put it out? To bake the bread in the home oven or buy of the baker; to put up our own fruit or buy of the canner? These are illustrations of questions that are too complicated in their present form to suit the investigator. The value of the time used at home in these tasks may be different in each case and it must be sorted out by minutes from the time used in cooking the dinner, tending the baby, and helping the children off to school. The fuel used must be estimated in cases where the same source of heat performs other work in cooking, or heats the room or the bath water. How much simpler the problem that confronts a gas syndicate—to borrow the illustration used by Professor Commons—that owns a dozen plants in as many towns and wishes to compare their efficiency. In all there is the same method of keeping accounts, the same way of estimating what a thousand feet of gas means in light, pressure, and cost of production. An expert accountant gives the answer in short order. Nor has the household that all-important thing, a *standard* as to results in its many lines of work as, what is good bread? How many times should a collar be expected to pass through the laundry and still retain its integrity? How many hours should be allowed for keeping six bedrooms in order (anything beyond the apportioned time to be considered personal to the owner)? In what relation to the size of the house and number of inmates should be the sum for operating expenses, fuel, and wages? At how much "per head" is the given standard of health and comfort maintained? Where is the line to be drawn between the degree of cleanliness necessary to health and that cleanliness which must be classed among the luxuries?

A business man must have standards of cost of production and maintenance of plant. He must know the relation between outgo and income or he is at the mercy of competitors who do know. Our competitors are the outside industries and they are laying the measuring rod of efficiency on the work of the home.

It is idle to say that the average housewife without special training for the task can undertake this establishment of standards and comparative costs; it is her part to fill out intelligently schedules that should be presented to her by the expert. The home should boldly call for help from those who study labor conditions in far less important fields. This work will be first undertaken in large institutions, in fact promising beginnings have already been made.

The Scientific Shop Management multiplies the former number of overseers but they are teachers not bosses and the workman is given help in every department of his task.

The housewife needs expert teachers in her own home, and help in studying out her conditions.

The instructive visiting nurse, the traveling dietitian are already in efficient service in the homes of the poor—an illustration which may serve to show that that the very poor are in many cases better served than the middle classes, as the charity patient in the modern hospital and the child of the slums with its playground. But it is in the homes of the well-to-do that this expert advice is perhaps the most needed.

Meanwhile the housewife who wishes to increase the effectiveness of herself and her helpers can do much by careful study of things as they now are, trying to look at things with fresh eyes and remembering that what *has been* is not necessarily what *should be*. Let her sit for half a day in her kitchen with folded hands and do nothing but observe and think.

Count the steps between stove and sink and table—can they be reduced? Is there a cabinet or a table with shelves containing small needfuls within reach of the stove? Are utensils at hand or in a distant closet? Is the coal on a level or down a flight of steps? Could a door be cut through anywhere to advantage? Would a dumb waiter from the kitchen to the cellar lessen labor? Are the tables and sinks of the right height? What is the reason for the present standard height? Is an adjustable table feasible? Count the dishes necessary to serve a meal, the steps needed to set a table. Scan the rest of the household activities in the same way, and it will be strange indeed if many improvements cannot be made—enough surely to "pay the price of the trip." But "that is another story."

A Hint as to the School Luncheon.

The noon luncheon in the elementary school will properly and naturally come when, as seems to be inevitable, the curriculum is so changed that the children will leave home half an hour later in the morning after they *have had to help* in putting the house in order and return half an hour earlier at night for similar helps but remain at school during the day, thus avoiding the dangers of the street for two passages.

The curriculum *may be* so arranged if any one will put an originative mind upon it so that active occupations are interspersed with sedentary study. The school may have luncheon in sections, the whole being kept moving on quietly and systematically as the employees in a factory.

It only needs an appreciation of the conditions under which modern life is, of necessity, carried on to see that *some* adjustment of school plans both as to content and arrangement is inevitable.

This adjustment may well include the activities pertaining to keeping one's self well and clean and there seems no better way yet devised than by the actual example of allowing the children to find their own little efforts to be of value. The teaching of all the practical details of living would then have a real and intimate bearing on daily life and the teachers would not feel as now that much of the effort is futile and fails to show results.

A Young House Wife's Queries.

A subscriber living on the Pacific Coast writes us the following:

To The Editor of the Journal of Home Economics:

Your request for suggestions for the coming Housewives Number brings response from me. I belong to the socalled mis-educated generation of college girls, who have been out of college about five years, and have been housekeeping one or two. We are always interested when our shortcomings as housekeepers are described, but want to suggest a redeeming feature of ours. Here we college-bred housekeepers are, full of enthusiasm for our homes—just starting in; used to theorizing; used to scientific work, or the "scholarly attitude," to a certain extent; interested in what lies behind the things we find to do in the routine of each day; full of a vague aspiration to be wisely useful. Why not get hold of us through these qualities and show us how, in the enlightened households we are trying to start, we can put to some prac-

tical use the things the academic students of Home Economics are discovering? For after all, if the things you find out will not stand the test that we, by usage can put them to, or if those discoveries are not expressed in such a way that we can grasp them, these investigations will not benefit our untechnical generation much. We do not need the missionary articles of women's magazines. We are already interested in our profession; and most of us present an average, normal problem; with incomes between $1500 and $3000 a year; a start which has included doing our own cooking and baby tending; and husbands open-minded and proudly interested in the successful outcome of our experiments.

We want to learn of such things as the application of cost accounting to our affairs; to know at just what point multiplication of detail in it ceases to be of value to the small house-keeper; to find out what sort of ordering is most economical of time and money; at what point the saving ought to cease to be an object; which labor-saving devices are not an extravagance for a small family. We want to get the best possible results from our various kinds of stoves, and to know the finer ways of regulating their heat. We should like to have comparative experiments in the various ways of preparing foods, illustrative of the fundamental principles in each connection with such directions as would admit of their performance in an ordinarily well-equipped kitchen.

We want to learn more of our proper relations with the industrial world as consumers. If we live in a small town we often wonder where we should shop, and what claims our local merchants have on our patronage if their goods seem inferior, and find that we must give consideration to the intricate results of changed trade relations if we pass them by. In short, these are only a few of the many directions which our queries take. It seeems as though the investigators and we, who have the practical application in our hands, must get closer together if the really right solutions are to be found. Perhaps the JOURNAL may be the means of establishing the connection.

This letter is one of the most interesting that has come to the editors of the JOURNAL. The question instantly rises: Is this a typical case? Does our correspondent represent a large number of young housewives who can be reached by an organized effort and who will coöperate for solving of problems that confront the home? If so, the situation is full of hope.

To women who have been trained in laboratory methods we do not need to say that to answer satisfactorily anyone of the above questions requires experimentation by trained people. The JOURNAL has no fund for the employment of such help, but to a certain extent it can gather together and report on work that has already been done. It can also formulate needs and lay them before the departments of Home Economics connected with our schools of learning for it is to them that we must look for the present for experiment station work along all these lines. Much has been done already as in the Universities of Illinois, Nebraska and Utah; bulletins have been issued by government experiment stations; valuable data have been gathered by organizations such as the Household Aids Co. in Boston some years ago. There seems to be urgent need for a clearing house which shall make truly efficient the body of existing fact by bringing it to the persons who can use it. We refer entirely to investigations conducted by competent people bearing on the whole range of household activities. As far as it goes it should be authoritative.

The JOURNAL hopes to make a beginning in this service for the home. It will welcome from its readers suggestions and information as to practical work that has been done.

The Present Number.

We have promised the housewife special help in this April number of the JOURNAL. She will find the vexed question of house service, treated from the broad standpoint of economics and the use of machinery in the house discussed by an equally able investigator. The care of the infant and the little child has received attention and the most condensed and practical guide is furnished for a study of menus in regard to their nutritive content. The home kitchen is compared with the foreign in an interesting manner and the reports of discussions at the St. Louis meeting will be found to throw valuable side lights on "daily work and duty."

The Club Woman will find a suggestive outline for next year's program, a reading course and a bibliography from current periodicals.

Everything points to the development of a new type of housekeeper, able to cope with the new problems that are to meet her, and to all who wish to be equal to new demands we commend Mrs. Richards' paper on The Social Significance of the Home Economics Movement. It is a trumpet call.

Back Numbers of the Journal.

The editors repeat their request for Numbers 1 and 2 of Volume 1 and Number 1 of Volume II. Forty cents will be paid for each number in cash or in credit on subscription.

Bibliography of Periodicals.

Readers of the JOURNAL will be glad to note on page 190 the excelment bibliography of articles on subjects that appeal especially to those interested in Home Economics as published in current periodicals. These lists are prepared by a Committee from the Home Economics Association of Greater New York and have heretofore been printed by that Association. Hereafter they will appear in the JOURNAL and we feel sure that our readers will gladly avail themselves of this valuable guide in their reading.

Mrs. Richards' Portrait.

Copies of the portrait of Mrs. Richards that appeared in the February issue of the JOURNAL can be obtained of the JOURNAL office for 25 cents post paid.

Plans for Club Study.

Extensive programs and outlines for club study bearing the endorsement of Mrs. Olaf N. Guldlin, Chairman of the Department of Home Economics of the Federated Clubs have reached us too late for insertion in this number of the JOURNAL. They will appear in the June number.

NEWS FROM THE FIELD.

Teachers College Columbia University.

The school of household arts was in receipt last year of a special gift for the decoration of the building and for the development of a technical library for the schools of household and industrial arts. Under the direction of Professor Dow, a selection of large pictures has been made, mainly carbon photographs, bromide enlargements and other reproductions which have been placed in the corridors of the building and in the larger lecture and laboratory rooms. There are also to be included in the decorations, a framed selection of fine art textiles, from a recent gift to the fine art department of the college.

The organization of the technical library is also going ahead. It is located on the first floor of the household arts building and already comprises several hundred volumes, while additions are being constantly made. It is open every day and four evenings a week.

Plans for the summer school in the schools of household arts and industrial arts indicate the offering of an unusually complete schedule of courses. Students who are candidates for diplomas in any of the subjects under the two schools, will find it possible to go forward without restriction, even if their opportunities for study are limited entirely to summer sessions of successive years.

The most interesting development for next year is the offering of a number of technical certificates in fields other than teaching for the completion of one or more curricula extending over one or more years. These certificates require high school graduation for admission and in certain instances additional requirements of training or experience. The new certificates to be offered are the following: House management, home cookery, institutional cookery, laundry management, lunch room management, nursery management, sanitary inspection, costume design and fashion illustrating, and dressmaking.

There have been demands for specialized training in all these fields which indiate that these new offerings are not ahead of the times. During the past half-year there were in attendance 5 or 6 women who were planning to use their training in laundry methods in a practical rather than a teaching field. One of these women has established a hand laundry which has already met with marked success. The topic of laundry methods of cleansing has by the way become an interesting one in the household chemistry instruction. The laundry department reported some tests in blues at the St. Louis convention of the American Home Economics Association.

The school of household arts has during the past few months, published several technical bulletins, including *A Bibliography of Household Arts*, *Hints on Clothing* by Mrs. Woolman, and *The Feeding of Young Children* by Mrs. Mary Swartz Rose. Other bulletins soon to appear are *Quantitative Factors in Nutrition* by Professor Sherman, *Chemical and Microscopic Methods in Distinguishing Linen and Cotton*, a translation of a German work by Miss Beers, and *Laboratory Notes in Physiological Chemistry* by Professor Gies. All of these pamphlets are available for use elsewhere

as they are on sale for a small fee. A set of charts illustrating the hind quarter and whole beef with the skeleton, and blue prints showing the sides of beef, pork, lamb, and mutton have also been prepared. A circular describing the charts and giving prices may be had on application to the Educational Museum of the college. These illustrations have been found useful in various ways.

Homemakers Conference, Cornell University.

The third annual homemakers conference in connection with farmers week was held at the New York State College of Agriculture, Cornell University, February 20–23. In connection was held a series of conferences dealing with the various problems of country schools. The teaching of agriculture, the place of domestic science in the school, and the relation of the school to higher industrial training were among the subjects discussed.

Pratt Institute: School of Household Science and Arts.

The Practice House at 220 Willoughby Avenue opened for work on January 3. The house is one of the group of houses belonging to Pratt Institute that are heated and supplied with hot water from a central plant. As it is a corner house it is somewhat larger than the others, and has a butler's pantry and better bedroom space. The house has been entirely redecorated and put into excellent condition as a simple dwelling-house. The unfinished half of the third floor has been made into a bathroom, as there will be more than the normal number of people staying in the house. The front room on the third floor is an institutional room with painted walls, cork carpet on the floor, and four hospital beds. Otherwise the house is arranged as it would be for an ordinary family. Miss Florence M. Williams, instructor in household economics, will have entire charge of the practical work done there. Miss Nelleen Sullivan, instructor in practical work, also has a room at the house but does not take her meals there. A group of six students comes in each week, serving all the meals from Monday luncheon through Saturday luncheon, and doing the entire work of the house. These students act in turn as hostess, cook, kitchen maid, waitress, chambermaid and laundress. The group is given a definite amount of money to be used for the week, and must give an exact account of the expenditure. The meals are served to four persons, one of whom is the instructor in charge of the house and one the student who is acting as hostess. Two others are invited for each meal. The cooking must of course be done for the whole group of nine persons. The house is not complete in its furnishings, but is in workable order. A little later an opportunity will be given to all instructors of Pratt Institute to see the house. The school regrets that it is impossible to ask the students from all other schools to inspect the house, as it is impractical to open it to such large numbers.

Lacemaking has this year been introduced into the course in handwork for senior normal students. The opportunities for design in lace are varied and interesting and this enrichment of the course definitely strengthens its constructive side. Carrickmacross is the first lace taken up, and some pieces of this are already finished. Reticella and darned net follow, and then pillow and bobbin lace. The possibilities of the work are practically endless, and the time that can be given to it here very limited, but the high demands it makes on the student both as to design and as to technique make the work of great value, even with the necessary limitations.

Women's Course in Home Economics, University of Wisconsin.

The seventh annual session of the women's course in Home Economics in the college of agriculture of the University of Wisconsin was held February 7–11. The course is free to all residents of the state. It was immediately followed by a one week school in Home Economics February 13–17. Courses were furnished in nutrition and cookery, in cutting and sewing, and in applied design and textiles, the methods of testing for purity, fastness of dyes, their laundering, and removal of stains.

Home Economics Instruction in Texas.

Through the influence of friends of industrial education, a bill was passed by the Texas legislature in 1901 for the founding of a State School to be known as The Texas Industrial Institute and College for the Education of White Girls of the State of Texas in Arts and Sciences. The corner-stone of the school, popularly known as The College of Industrial Arts, was laid in 1902. A president and faculty of fourteen teachers was chosen and the school was opened to students in the autumn of 1903.

The curriculum included the usual work in literary subjects, besides specialized training in commercial arts, fine and industrial arts, household arts, manual training, and horticulture. The training given in these respective departments was under the direction of and given by experienced teachers specially prepared for this work.

The course in the household arts department consisted of two lines of work, domestic science and domestic art. The subjects taught in the domestic science department were Home Economics, cooking, dairying, and laundering, and those in the domestic arts department were dressmaking, millinery, and sewing.

The Home Economics course was originally given by the domestic science teacher. Now the scope of the work has been broadened so that each department carries the work that specially characterizes it.

As an endorsement of the legislature's action in establishing The College of Industrial Arts, and following its example, the boards of education of Dallas and Austin introduced domestic science and domestic art in their high schools in 1904.

Manual training had been taught in these schools previous to this time, Austin having the pioneer school. Some years before this, a public-spirited man of Austin, William Allan, left a bequest which according to the terms of his will should be used in establishing and maintaining "a school to teach boys how to use their hands." The term "boys" was broadly interpreted so that girls also came into the work, and in 1896 "The Allan Manual Training School of The Austin High School" was established.

Industrial work has since made slow but steady progress in public favor until manual training is taught in a large number of the public schools, and domestic science or domestic art is given a recognized place in the course of study of over twenty towns and cities.

The introduction of industrial training in the different places has been entirely optional, but as an incentive the legislature from time to time has made appropriations. The first appropriation was $500 for each town that would furnish the same amount and install the work within a prescribed time limit. Judging from recent reports half a dozen or more towns will introduce domestic science and domestic

art next year and a number of others have expressed an intention of doing so as soon as finances will permit.

In 1908 the legislature further stamped its approval on industrial work by passing a bill incorporating agriculture and the household arts in the course of study of the four state normal schools. The Sam Houston Normal began work in 1909; the North Texas and San Marcos Normals in 1910; and the Northwest Texas Normal is expected to begin this spring.

The State University has under consideration the introduction of some form of household arts. It has not been officially announced nor is it further known whether it will be of a practical character or merely research work. The university authorities have been quite conservative in their attitude toward industrial training. They first granted one unit of credit on entrance for manual training and drawing. More recently they have granted two units for domestic science and domestic art but have not yet decided what the requirements shall be. Since the university recognizes industrial training upon a basis comparable to academic work, it will no doubt rise in public favor particularly with affiliated high schools.

An increasingly great demand for industrial teachers has arisen with the progress of industrial work. This demand for trained teachers has been met largely by eastern schools. The advocates of industrial education have been encouraged and gratified so far with its steady and auspicious growth.

Home Economics Association of Greater New York.

The work of the association for the last year has consisted of meetings and the publication of the bibliography of current literature on Home Economics. At the annual meeting and luncheon held at the Hotel Brevoort on January 15, 1910, Miss Edith Greer spoke on Home Economics in Europe. The other subjects presented at the meetings since January 1, 1910, have been Clothing from the Hygienic Standpoint, Dr. Thomas Denison Wood of Columbia University; The Educational Work of the Relief Association, Mrs. Ingram of the New York Association for Improving the Condition of the Poor; the Relation of Soil Production to the Cost of Living, George T. Powell, President of the Agricultural Experts Association; and Interior Decoration, Miss Hicks of the National Society of the Craftsmen. An address was given this autumn on Home Economics in Europe, by Dr. C. F. Langworthy of the U. S. Department of Agriculture, with lantern slides illustrating conditions in Ireland, Holland and Belgium.

The annual luncheon was held at the National Arts Club, and Mrs. Ellen H. Richards spoke on the Conservation of Human Resources. A meeting was held in January, 1911, in conjunction with the Child Welfare Exhibit, the address being Some Features of Nutrition During Growth, by Dr. Lafayette B. Mendel of Yale University. This address will appear in the June number of the JOURNAL.

Other meetings for the year as planned will consist of a symposium on the work of the dietitian, some artistic features of clothing, and the push-cart problem. The program committee attempts to include such a variety of topics that at some time during the year each member may find something that meets her needs.

The bibliography has been in the hands of the committee of which Miss Ruth Wheeler is the chairman. There have been 114 subscribers, but unfortunately this number does not cover the cost of printing; so arrangements have been made for publishing it for the present in the JOURNAL OF HOME ECONOMICS.

Ohio Chapter of the American Home Economics Association.

This chapter was organized in Cleveland, February 11, 1910, at the close of the Domestic Science Section of the North Eastern Ohio Teacher's Association, with a membership of 48. Miss Rachel H. Colwell, Lake Erie College, was elected president; Miss Matilda G. Campbell, supervisor of domestic science, Toledo, vice-president; and Mrs. Ada B. Williams, supervisor of domestic science, Cleveland, secretary-treasurer. Later the membership was increased to 82.

The effort of the administration has been to get the names and addresses of the teachers within the state of Ohio. The first annual meeting was held at Dayton, November 11, in conjunction with the Ohio Art and Manual Training Association and the Central Ohio Teachers' Association, with another meeting in Cleveland in conjunction with the North Eastern Ohio Teacher's Association so helpful that it would attract large numbers of the teachers who would become members and thus put the organization firmly on its feet. An election of officers will be held at the Cleveland meeting and the chapter will then be so strongly organized that the new administration will be able to carry out any policy which may be deemed best.

Grand Rapids Home Economics Club.

This club was organized Oct. 18, 1909. During the school year, regular monthly meetings and three public meetings were held. An idea of the scope of the club may be gotten from the following enumeration of the subjects taken up at meetings.

Miss Brockett of the Mary Crane Nursery of Chicago spoke at one of these meetings on the work of the visiting housekeeper and the work of the Mary Crane Nursery; at another Miss Anna Barrows gave a lecture on the Art of Living, a public demonstration of cooking.

Talks have been given by physicians and nurses. At one meeting a report by Miss Frances Stuart on Household Economics in the Public Schools of Great Britain was read. At another meeting Miss Barrett of the Union Benevolent Association Hospital of Grand Rapids gave a very interesting talk on Emergencies and Dr. E. W. Dales a very instructive paper on Digestion.

Plans for the coming year include demonstrations before the club by members, public demonstrations by well known teachers, and lectures at our regular meetings.

We are looking forward to a very profitable year and have prospects of an increased membership.

Conference in the Inter-Mountain West.

In response to an invitation extended by the Home Economics department of the Agricultural College of Utah, of which Miss Ellen A. Huntington is director, several teachers of Home Economics in the inter-mountain West met at the Woman's Building, Logan, February 4 and 5, 1910, to discuss (1) the advisability of using a uniform course of study in the high schools and (2) the desirability of forming a branch of the American Home Economics Association.

The discussion revealed a general agreement that a uniform course of study was desirable and practicable.

Initial steps were taken toward forming a branch of the Home Economics Association by preparing blanks to be sent to all those who might be interested asking for their opinions as to the advisability of organizing and as to details of organization.

New England Home Economics Association.

This association was organized in the fall of 1908. Its general plan is to hold four meetings yearly. At the March meeting the relation of Home Economics to the schools is considered and an effort is made to gain the cooperation of women's clubs. In April extension methods are considered with special reference to rural districts. The date of the next coincides with that of the New England Conference on Rural Progress of which Professor William D. Hurd of the Massachusetts Agicultural College is chairman. There is to be a two day's joint session which will doubtless be of mutual benefit to the organizations.

The last meeting of the year takes the form of a social gathering. The members meet "around the family board" to listen to reports and to plan for future work.

The association works through conferences devoted to the consideration of the following topics: Home Economics in public schools; dietaries; Home Economics in social work; Home Economics for the housewife; domestic science; sewing and related handicrafts; Home Economics in rural schools; institutional management.

The conference on public school work of which Miss Lillian C. Smith of the Brookline High School is chairman reports several meetings. At one, a demonstration was given of a laboratory lesson. At another reports were made of methods in foreign schools by members recently returned from abroad.

In the conference on rural work of which Miss S. Maria Elliott is chairman, the following topics have been considered:

How can Home Economics be started in a one-room school? What shall be the training of the teacher in such a school? What constitutes special aptitude for such work? Cannot the Grange be induced to consider the topic, and bear the expense? What part of Home Economics is best suited to rouse interest in Home Economics teaching in the rural community? What is being done already in Massachusetts, etc., etc? It is hoped to interest the superintendents throughout the state; to make a survey of work already begun; to serve as a directory for books, apparatus, lectures; and to assist the Massachusetts Agricultural College in its extension work.

The New England Association has already demonstrated the value of branch organizations to the general association by assuming the labors of arranging for the annual meeting which was held in Boston in December, 1909. It assisted in the entertainment of the National Education Association, and is represented in the educational conference of the Boston 1915 movement. It has 157 members. The president is Miss Sarah Louise Arnold; the secretary and treasurer, Mrs. Margaret J. Stannard.

Western New York Branch of the New State Association of Home Economics.

On the afternoon of February 9 an enthusiastic meeting was held at the Chapter House in Johnson's Park, Buffalo, N. Y. for the purpose of organization. There was a large attendance of teachers from the Buffalo schools and from the towns about Buffalo, and also representatives from the Mothers' Clubs.

Miss Martha Van Rennsselaer, of the department of Home Economics of Cornell University and president of the state association, presided through the opening business meeting.

Miss Flora Rose, also of the department of Home Economics in Cornell and secretary of the state association, read the constitution after which she opened the discussions emphasizing the importance of child welfare departments in every city.

The nominating committee, through Mrs. French, chairman, presented the following nominations: President, Miss Mary E. L. Small, director of the domestic science department of the public schools of Buffalo; vice-president, Miss Berthold of Niagara Falls; secretary, Miss Sarah H. Bullard of the Central Park School, Buffalo; and treasurer, Miss Lange, in charge of the domestic science department of the Buffalo Normal School. All were elected and at the close of the meeting a membership of 100 was announced.

Miss Van Rensselaer closed the formal speaking with comments upon the necessity of sincerity in domestic science teaching.

"It has been said of domestic science that it is a fad," she said. "If that is so, it is the fault of the teachers. We need a larger vision. Domestic science is not merely to teach a woman how to make a pleasant salad, but it is to teach her better living conditions; what kind to clothes to put on, harmony in her home decoration, and how to choose becoming hats. We ought to put the domestic science teacher upon a very high standard, because she teaches those who will be taking care of wage-earners."

As a hint to the maker of club programs in Home Economics we insert a copy of the course given this session before the Association of Home Economics Clubs of Baltimore, Md.

A Combination Club Program.

Thirteen clubs of that city united in arranging this program, each club paying five dollars towards the expenses. A large and interested audience was thus guaranteed.

Nov. 7— The Nutritive Value of Foods, Miss L. E. Weer, Supervisor of Home Economics in the Schools of Baltimore County.

Dec. 5—Our Daily Food as Influenced by the Science of Nutrition, Dr. C. F. Langworthy, U. S. Deptartment of Agriculture, Washington, D. C.

Jan. 9.—Planning of the Meals for One Week With Regard to Cost and Nutrition, Miss Emma S. Jacobs, Director of Home Economics in the Schools of Washington, D. C. (see page 162).

Feb. 6—What are the Essentials of Good Housekeeping? Discussion led by the presidents of the contributing clubs and others.

March 6—Bacteriology for Mothers and Housewives, Dr. W. W. Ford, Associate Professor of Bacteriology and Hygiene of the Johns Hopkins Medical School.

April 3—The Better Planning of Housework for Saving Time and Strength, Mrs. Wm. L. Amos.

BOOKS AND LITERATURE.

Text-Books of American School of Home Economics.

The new edition of the text books used in the American School of Home Economics, 606 West 69th St., Chicago, Ill., shows some changes as compared with the last edition.

In Chemistry a number of corrections have been made, a number of illustrations added and the pages relating to laundry work have been rewritten. Bacteriology has had a number of corrections made, and one or two illustrations added. Household Hygiene was corrected and had a section on sewage disposal for the private house rewritten to include septic tank work. Textiles and Clothing and Household Management have been changed but very little. Food and Dietetics have had a few changes made and all the material in the bulletin on Food Values is now included. Principles of Cookery has had all the material in the bulletin on Free Hand Cooking put in at the end. Personal Hygiene and the House have not yet been reprinted, but we learn that the former will be reprinted in a few weeks and then will contain all the supplementary material at present included in the "library" edition.

The textbook edition is printed on light weight paper. The price of the books is $1.00 a volume to schools. The list price is $1.25 per volume for single copies.

There is also a little pamphlet (price 10 cents) called Free Hand Cooking, which aims to state principles and give the comparatively few fundamental recipes in cooking. It contains many useful tables and general directions.

Another useful bulletin (price 10 cents) is called Food Values, and is founded on Prof. Irving Fisher's work. It contains many graphic illustrations.

Health Education League Booklets. Health Education League, Boston, Mass.

Women's Clubs and other organizations interested in the study of health frequently ask for books of reference that shall be both authoritative and inexpensive. This want is well met in these booklets. Members of the League (annual fee $1.00) are entitled to a copy of each of the publications of the League. New leaflets are all the time being added to this list. At present it is as follows, more than 220,000 copies being said to be in circulation:

Nos. 1, Hints for Health in Hot Weather, two cents each, $1.50 per hundred; 2, Milk, by Charles Harrington, M.D., three cents each, $2.50 per hundred; 3, "Colds" and their Prevention, two cents each, $1.50 per hundred; 4, Meat and Drink, by Ellen H. Richards, three cents each, $2.50 per hundred; 5, Healthful Homes, four cents each, $3.00 per hundred; 6, The Successful Woman, by William R. Woodbury, M.D., four cents each, $2.50 per hundred; 7, The Boy and the Cigarette, by H. Sterling Pomeroy, A.M., M.D., five cents each, $3.00 per hundred; 8, The Care of Little Children, by R. W. Hastings, M.D., three cents each, $2.50 per hundred; 9, The Plague of Mosquitoes and Flies, two cents each, $1.50 per hundred; 11, Tonics

and Stimulants, by Ellen H. Richards, two cents each, $1.50 per hundred; 12, Emergencies, by Marshall H. Bailey, M.D., eight cents each, $5.00 per hundred; 13, Microbes Good and Bad, by Anne Rogers Winslow, four cents each, $3.00 per hundred; 14, The Care of Babies, by Gaetano Praino, M.D., Wall Card (10 x 14) *in Italian*, three cents each, $2.50 per hundred; 15, The Efficient Worker, by Ellen H. Richards, four cents each, $2.75 per hundred; 16, Sexual Hygiene, by an experienced physician, four cents each, $2.50 per hundred; 17, Health in Labor Camps, three cents each, $1.75 per hundred; 18, Tuberculosis (Consumption), by Edward O. Otis, M.D. five cents each, $3.00 per hundred; 19, When to Call the Physician, by George W. Gay, M.D., four cents each, $2.50 per hundred; 20, Habits of Health, by Paul W. Goldsbury, M.D., four cents each, $2.50 per hundred; 21, Wastes and their Disposal, by Henry J. Barnes, M.D., four cents each, $2.50 per hundred; 22, Typhoid Fever, Infection and Prevention, by Mary Hinman Abel, five cents each, $3.00 per hundred; 23, The Observance of Health Day in Schools, by Thomas F. Harrington, M.D., four cents each, $2.50 per hundred.

Sample copies of these booklets will be sent by the League to any address on receipt of price.

Equipment for Teaching Domestic Science. Helen Kinne, Professor of Domestic Science, Teachers College, Columbia University. Pp. 100, figs. 31, dgms. 33.

This book contains 31 illustrations of model rooms and equipment for teaching domestic science, and 33 diagrams of floor plans, school kitchens, tables, cupboards, stoves, hot plates, etc.

Numerous estimates, descriptions, and suggestive lists are given for complete equipment for instruction in cookery, table-setting, laundering, housework, and home nursing, from the simple packing box equipment for the district school to the laboratory of the city schools. In addition to a treatment of each phase of domestic science equipment, chapters are devoted to the care of equipment; to the cost of maintenance and how it has been met; and to a description of domestic science equipment in the School of Household Arts, Teachers College, Columbia University.

Domestic Science in Rural Districts. Neale S. Knowles. Alumni Bul. Univ. Va. 3, ser., 3 (1910), No. 3, pp. 246–252.

An outline is given of rural domestic science work as it is at present carried on in the United States, and the importance of extending such work is pointed out.

Domestic Sanitary Engineering and Plumbing. F. W. Raynes. New York, Bombay and Calcutta: Longmans, Green, and Co., 1909. Pp. XIII + 474, figs. 277.

Among the subjects included in this volume, designed for students of domestic sanitary engineering and plumbing, may be mentioned metals and their properties and mode of manufacture; roof work; pipe fixing and pipe bending; solders, fluxes, and lead burning; sanitary fittings and accessories; drainage of houses and other buildings; disposal and treatment of sewage; water supply; appliances for raising water; hydrostatics and hydraulics; domestic hot water supply; and low pressure hot water heating apparatus. The volume contains many illustrations and tabular matter, and a number of problems which are designed to illustrate different sections of the volume are worked out in detail.

As the author states in his preface, "in order to cover the subject without making the book unwieldy and expensive to procure, it has been necessary to omit a great deal of elementary and general matter, and instead of devoting space to the municipal side of sanitary engineering the scope of the work has been limited to the title of the book.

"Many formulæ have been introduced as an aid in the design of work, and in most cases these have been given in as simple a form as possible consistent with accuracy, whilst numerous examples have been worked to show their application."

Municipal Chemistry. A Series of Thirty Lectures by Experts on the Applications of the Principles of Chemistry to the City, delivered at the College of the City of New York, 1910. Edited by Charles Baskerville, Ph.D., F.C.S. Magraw Hill Book Co., New York City, 1910. Pp. ix + 523.

A number of the lectures present concisely the essential features of their subjects. The whole field of municipal activity is covered exceptionally well, considering the devotion of but one lecture (as a rule) to each subject. Chapters of especial interest are: Purification of Water, William Pitt Mason, C.E.; Milk, Thomas C. Darlington, M.D.; Food Inspection, Wm. Allen Hamor; Waste Disposal by Utilization, Edward D. Very, C.E.; Waste Disposal by Cremation, Incineration, and Destruction, Edward D. Very, C.E.; and Disposal of City Sewage, C. E. A. Winslow, M.S.

Driers and Evaporators and Their Use. O. Marr. Das Trocknen und die Trockner. Munich and Berlin: R. Oldenbourg, 1910. Pp. IX + 416, figs. 215.

The theory involved in the construction and use of driers and evaporators is discussed and apparatus of different sorts described, designed for use in the drying or evaporation of agricultural products, feeding stuffs, fertilizers, building materials, fuels, textiles, and clothing, and food and condiments, as well as for use in chemical and related industries. The volume as a whole is a useful handbook, particularly with reference to drying or evaporation on a commercial scale.

Death of Mrs. Richards

Just as we are going to press comes the sad news of the death of Mrs. Ellen H. Richards, the first President of the Home Economics Association. She died at her home in Boston on March 30th after a brief illnesss.

To the great majority of the readers of this journal, the announcement of her death will bring a sense of grievous loss, so widely was she known, so helpful has she been to all who are working in the different branches of Home Economics, while those who have had the privilege of her personal friendship and been inspired by her ideals, who have drawn upon her rich fund of energy and resourcefulness, been guided by her wisdom and broadened by her tolerance, know that a great leader has fallen. In the next issue of the JOURNAL some attempt will be made to estimate her relation to the many movements for human betterment in which she was vitally interested.